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JOURNAL
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Address of President*

JOHN WYCKOFF
Dean New York University College of Medicine and
President of the Association of American Medical Colleges.

The Association of American Medical Colleges as a whole, and all of us as individual members have been passing through the harrowing times of self analysis. In this analysis we have been associated with two groups which have been of tremendous assistance to us, particularly for the following reasons: though closely allied to us, and groups with which we are in close sympathy, they are entirely free from the routine responsibilities and difficulties of our problems, and thus were able to view many situations with a clearer perspective than we might ourselves; groups with a background of experience usually not the same as ours, hence, might, at times, think of different methods of reaching our goal. That goal, of course, we all agree is the improvement of medical practice through the improvement of medical education.

There may be differences of opinion in the minds of some of us as to whether such a self analysis, stimulated, as it was, by vis a tergo, is really of any value. To my mind, there is no question about its value. The general result of such an amount of self study as was necessary to fill in the questionnaires brought knowledge to most of us that there were certain things not right in our own schools that we had not realized, or if we realized the faults, had not made the necessary efforts to eradicate them. After three days spent with the inspectors, I doubt if there were any places where some of us were not made to wince more than once as they uncovered raw and tender spots, most of which we knew existed but hoped would escape their vision; others that we either did not know about or did not appreciate the fact that they were weaknesses.

There are others of us who, while agreeing that such an analysis, though painful, is useful and beneficial, yet fear the danger of standardized requirements and the making of general rules, when the various centers differ so much in physical and clinical facilities, available faculty personnel and available students. I find myself sympathetic to the fear of such standardization, though I am sure that we all agree that there must be standards for admission to such an association as this and we would not care to have the American Medical Association recognize certain outlawed schools. If we do believe these things, we must approve of some minimum standards of accomplishment at least.

*Delivered at the Forty-seventh Annual Meeting of the Association of American Medical Colleges, held in Atlanta, Georgia, Oct. 26-28, 1936.

It has been my privilege to help in the inspection of about twelve schools in Canada and the United States and I have visited rather carefully five others. These, I think, were a fair sample; some were in large and important cities, rich and well equipped; others were in very small towns and were pitifully poor. An impressive thing in my experience was the uniform belief of the schools which I visited that they were fulfilling a mission, that they were needed, that, on the whole, they were doing their work well, though there might be weak spots. I gained the impression that there seemed to be more certainty of a good job being done in the schools or departments where the facilities, physical and clinical, were most meagre and the faculty inadequate in number and less well trained. I was forced to come to one conclusion: a medical dean or a member of the medical faculty is frequently unable to evaluate his own school or his own department when they are weak. There is sometimes a definite correlation between a weak school and the critical ability of the dean, and between a weak department and the critical ability of the head of the department.

As I observed these schools and thought about them, I was naturally impressed by the opportunities that some of them gave to the student, both undergraduate and graduate, but I could not help but be abashed and discouraged by the unevenness of opportunity.

This is a family gathering. I am not here to speak of what I know is good in the job which we are doing; there is much good and we know it, but I think I would not utilize my opportunity and privilege properly if I did not speak briefly of certain conclusions—perhaps conclusions is too strong a word—which I have come to as the result of my own observations. It is needless to say that I am speaking simply for myself and am giving my own impressions, the impressions gathered by the administrator of a school with many shortcomings of its own.

Educational Control

The relationship of medical schools to their controlling body is of fundamental importance. In some schools, this relationship has been too casual; in some much too detailed and in some quite improper. Am I speaking too strongly in saying this when there was at least one school visited where members of the boards of trustees interfered with admissions, with the dropping of students for poor scholarship, with promotions, as well as with appointments to the teaching faculty? There are universities which contribute nothing to the support of the medical school, and yet, sometimes, make heavy demands for the teaching of students who are not candidates for the medical degree. There are universities which actually take income from medical student fees to finance other departments of the university.

Budget.

The question of the medical school budget is interesting. The depression was a trying time for us all. Some schools without other income than student fees have made or are making little attempt, or are meeting with small success in the building up of endowment or increasing their budgets with gifts and

grants. Such schools cannot and do not give the student the opportunities he deserves. The difference in the ratios of the school budget between the sums spent for teaching and that for research also gives food for thought, granted that wide latitude should be allowed in this matter.

Those responsible for actual teaching should be experienced and properly paid. There are departments in medical schools where instruction and supervision of students are woefully inadequate because a disproportionate amount of the budget is expended in research. There are also departments where no funds are allowed for investigative purposes; a staff willing to remain in such an environment can hardly be expected to teach students how to observe, reflect and draw conclusions—those processes everywhere agreed on as being fundamental in medical education. Budgets are sometimes distributed improperly to departments; one department is starved, another receiving too much in proportion. If medical education is to be generally effective, an adequate salary scale must be achieved and maintained, a reasonable proportion of total income should be devoted to instruction, and students' fees alone cannot be expected to maintain medical education adequately at a satisfactory level.

FACILITIES.

Buildings with class rooms and laboratories were usually adequate; equipment with apparatus was usually sufficient to do a good job.

Clinical facilities frequently are inadequate and often, when quantitative and qualitatively adequate, are impossible to use effectually because of organization difficulties.

The *Journal of the American Medical Association* (August 29, 1936) has the following to say in this connection: "When, after the war, the number of applicants began steadily to increase, it was usually taken for granted that the number of students that could be effectively taught depended on the size of the preclinical laboratories and that in the clinical years, if desired, larger classes could be accommodated. Data from the medical schools of the United States and Canada now being analyzed by the Council indicate that the reverse is true. Adequate clinical facilities, under effective control by the school, are enjoyed by comparatively few institutions. Laboratories may be utilized by successive sections, but patients cannot be subjected to repeated examinations. In the preclinical subjects the curriculum can, if necessary, be adjusted to classes of 100 or 150, but the intimate contact of student and patient that is needed for the best type of clinical teaching is rarely obtainable for such large groups. For effective teaching in our medical schools, the factor limiting the size of classes would be in most cases the clinical rather than the preclinical facilities."

TEACHING STAFF.

There are schools in this country where out of a preclinical staff of ten or twelve persons there is not one who by his capabilities or training would be considered for an assistant professorship in one of fifteen better schools in the country. I think that is a conservative statement. Should that be so?

There are still professors in clinical subjects holding key positions from which they cannot be dislodged who, I feel sure, no one sitting within hearing could consider competent to guide the student to clinical knowledge.

I think there is no question that preclinical teaching is frequently of very high order; but in other instances poor. There is not time to discuss these faults. I would say there are preclinical hacks teaching year after year in a lack-lustre manner subjects with which they seem bored. There are departments where the more experienced men have such little contact with students that even those who accept the influence-of-a-great-man theory must believe in absent treatment. Some courses are taught by experienced men, wise in the knowledge of their subject, but careless in developing their subject in such a balanced way as to give the student what he comes to medical college for—the best preparation possible. In some schools are departments woefully undermanned.

The difference in the quality of clinical teaching and clinical experience in all branches given in the schools was to me the most surprising and disheartening part of my experience. In many schools actual contact of the students with patients was provided over periods of time which allowed them to study a patient as a whole, during his illness, from all aspects—physical, mental and environmental; to follow carefully the course of acute disease from onset or early in its course to termination. In some schools good opportunity to study the course of chronic disease was given for periods as long as two years. In most schools there seemed to be no such opportunity. In schools where the clinical training extended over long periods, the approach to the patient was begun early, usually during the second year, and opportunity actually to study patients was always given in the third year.

On the other hand, there are still a number of schools in which clinical teaching is chiefly didactic, where the actual contact of student and patient is very limited, where clinical clerkships are short experiences, sometimes little more than a series of ward rounds and sometimes rotating from service to service so rapidly that it is hardly an overstatement to say that only an illness of a few days' duration can really be studied. Usually, in these same schools the introduction to clinical subjects is inadequate, if given at all. Introductory courses in history-taking and physical diagnosis, while much talked about, are usually given in a less satisfactory manner than in the schools where there are adequate clinical clerkships. This is partly from lack of material or improperly organized material, and partly from lack of competent supervision.

A most interesting thing to me was (and I think this is a fair statement) that the best actual contact between the student and patient (that is, the greatest opportunity given for the students to study patients) was in the schools which are sometimes criticized as being over-scientific, and the poorest clinical opportunities seemed to be in the institutions where the greatest stress was laid on practical education.

LIBRARIES.

The difference in libraries must also be noted. Not only in the number of books and periodicals do they vary but also in the attitude of the school toward

its library. More than one school at the time of the survey had libraries without trained librarians; libraries closed during parts of the day; many not open in the evening. As to books, some libraries were chiefly made up of out-dated textbooks and too few journals. Some had far too few scientific journals and few foreign journals. While I think it is true that in most institutions this lack was recognized by those in charge, more than one institution visited did not seem to realize that an intelligent faculty and student body in a modern medical school must have ready access to source material, and that they must be expected to utilize it.

While there was a general unanimity of opinion as to what the aims of teaching were to be in medicine—adult and children—and surgery, the difference being chiefly that of methods of accomplishment, there was less unanimity in all departments of obstetrics, psychiatry and preventive medicine.

In certain schools obstetrics is not required for graduation. The mechanism of normal and abnormal labor is stressed and little attention is paid to the antepartum and postpartum state. In some places where a comprehensive course is mapped out, material is inadequate, but in many more, supervision is even less adequate.

The Committee on Psychiatric Teaching has done much to influence the course in psychiatry in the medical school but this important branch of medicine in some schools still consists of a limited number of lectures and demonstrations of severe mental disease, with almost no teaching and sometimes no experience in the examination of patients with a view to determining their mental state.

In some schools the course in preventive medicine would seem to be given with the sole idea of teaching the student to become a local sanitary officer, rather than as an experience in the prevention of disease.

I do not wish to continue this phase of my discussion. I for one am quite convinced that at the time our schools were surveyed many of us had weaknesses which it was possible to remedy and in many cases great improvement has already taken place.

But a great mass of material has been collected, some of it from questionnaires, some from interviews. What is going to be done with it? I suppose it will be studied. That it should be studied, I think cannot be questioned. Unless it is studied under the direction of a committee experienced in the problems of medical education and with a definite appreciation of local conditions, there will be danger.

It must be remembered that the data entered on the questionnaires is of a "yes-and-no" character. It takes no cognizance of the locality of institutions or of peculiar circumstances in such institutions which may explain what is a seemingly poor showing and even make it a really better showing.

Let me give an example. I have spoken of the value of library facilities. There can be no discussion of their need and value. Suppose an analysis were made of the number of books drawn per student for reading in the various

libraries per year. This figure would be valueless unless there was taken into account the fact that certain of our schools have an open-shelf system, in which no record is kept of books drawn for reading in the library itself, and the number of books borrowed per student would be only those drawn out for home reading. In other libraries with closed stacks all books taken from the stacks, whether for library or home reading, are listed as books borrowed. The figures collected are, therefore, not comparable and, as far as I know, the questionnaire did not go into this matter. Conclusions drawn from such a comparison could be very misleading.

Furthermore, the question of a library budget might easily vary, depending on other facilities for reference in the community. In Philadelphia, the faculty and students have access to and use constantly the great library of the Philadelphia College of Physicians, as well as the libraries of certain hospitals in the city. The need of carrying certain expensive files rarely used by the college library is not as essential as in a medical school which contains practically the only medical library in its state.

I use library data as an example because of the unquestioned importance of the library, the objectiveness of facts which may be collected about it, and the general belief, expressed widely, that it is an important index of medical school efficiency. How much more difficult will be comparisons made of more complicated departments, and how dangerous, unless made with great care and under the supervision of those experienced in medical education.

It would seem to me that inasmuch as the inspection of these medical schools was a joint venture of the Committee on Medical Education and Hospitals of the American Medical Association, the State Federation of Medical Boards and the Association of American Medical Colleges, the evaluation of the data obtained should also be a joint undertaking. This will mean expenditure of time by members and also money by the Association, but unless we offer to participate in this work officially, we cannot complain if the analysis of data collected is not to our liking.

So far I have spoken only of the responsibility of the medical school in relation to its own accomplishment. It influences the accomplishment of the undergraduate college and to a growing extent that of the hospital internship and residency. This influence in the past may have been good or bad, depending on various points of view, but that there is such an influence, we cannot escape. Are we to go on in an opportunistic way, taking no part in the development of these relationships?

Medical education itself, the preparation for it, and its continuation later, are all problems of great interest to us. Are we going to be willing to continue taking little part, except as individual institutions, in the development of this program in the United States? We have taken an active part in the survey of our member schools. Is it not essential that we should take part in the study of the results? The action of the Council on Medical Education and Hospitals on the results of this survey will be of serious consequence to us all. The Council

is composed of high-minded physicians under able leadership. It has borrowed from our membership men to advise it. It has asked your president to sit in at its deliberations, but so far it has not asked us, as an Association, to take part in the analysis of the data which we have helped to collect.

Thought on this matter leads us to other thoughts. What are we? What is our purpose? Are we accomplishing our purpose? We are an Association of the recognized medical schools in the country. In the schools of our membership are all, or nearly all, the leaders in medical education in this country. We have consciously fought any centralization of authority, have literally resented our Executive Council if it took any authority of its own, and objected violently to the setting up of an expensive central bureau. When trouble arises our membership demands action, and activities which we are not set up to administer, influences which we, to a certain extent, as an Association, have voluntarily relinquished.

When a number of years ago the Association discontinued meeting as an association with the Congress on Medical Education and Licensure, it did so with the idea that its membership would profit by visits to different schools, the medical schools would profit by such visits, and medical education would benefit. Unquestionably this has happened. On the other hand, in not meeting as an association with the Council on Medical Education and the State Board of Licensure, we have voluntarily given up an opportunity to keep before both these important bodies our aims, our accomplishments, and our aspirations. We should not avoid listening to the opinions and possibly the criticisms of certain groups of our medical colleagues, groups who are important in influencing medical practice and thought.

I am one who believes that a multiplicity of standardizing bodies is against the best interest of any educational system. Medical schools will always be subject to the scrutiny of state and national licensing bodies and the profession of medicine, as well as college and university associations. This Association should, in my opinion, endeavor to unite with them and help in such studies, urging the setting-up of a joint enterprise and giving generously of the time and experience of its membership to such undertakings.

What Medical Colleges Expect Hospitals to Do to Continue the Education of the Intern*

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The theme of Shaw's comedy, "Pygmalion," depicts the actions and reactions of Liza, a flower girl, who was picked up from the gutter by a teacher of phonetics, named Higgins. He made a bet that he could train her to talk and to act like a lady. In the latter part of the play, Liza says to Colonel Pickering, a crony of Higgins, ". . . the difference between a lady and a flower girl is not how she behaves, but how she's treated. I shall always be a flower girl to Professor Higgins, because he always treats me as a flower girl, and always will; but I know I can be a lady to you, because you always treat me as a lady, and always will." The implication of this quotation is obvious. If the medical colleges treat the members of the graduating class as finished products, in whom they have no further interest, and if hospitals treat interns as "conveniences" for the attending staff and as automata in the hospital organization, uninspired service will be the result. But, if the medical colleges and the hospitals each view the intern as a mature graduate student, eager to learn, and if opportunities are tendered and systematic guidance is offered, the character of the future practice of medicine will be elevated.

For many years, certain hospitals have viewed the continued education of the intern as one of their major social functions, and as a result, internships there are keenly sought. The interest of the staff in the training of the intern has resulted in developing within the hospital a true spirit of education. The fact that this condition is not more widespread is largely due, I believe, to a lack of appreciation on the part of the hospital administration, of the lay and of the professional boards, of their opportunities and responsibilities for this important work. A general awareness of the situation is, however, manifesting itself all over the country, and it is very fitting that the matter be discussed at the meeting of this Association. That this new point of view is developing rapidly can, perhaps, be emphasized by reading excerpts from two papers—one written in 1930, and the other in 1936:

"In a general hospital admitting, for example, 5,000 patients a year, eight interns can be kept thoroughly busy. Each man will write over 700 histories and make over 700 physical examinations. The diagnosis, to a great extent, will depend upon his preliminary investigations, and he will be largely responsible for the measure of success ultimately resulting from the therapy carried out. He will assist in the operating room; he will perform innumerable duties in the laboratory of pathology and will examine and treat thousands of dis-

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pensary cases. He will act as the intermediary between the staff physician and the relatives, thus relieving the chiefs of innumerable annoyances, and will succeed in this in direct proportion to the amount of natural tact he possesses and the attention given to this important detail of intern training on the part of those who have these young men under guidance. The intern will help in the preparation of bibliographies and of abstracts and in the review of the literature of countless subjects. He will engage in the prosecution of research. If he is alert, enthusiastic, and energetic and engaged in a hospital with active services, he will spend 50 to 60 hours of hard work each week, frequently exceeding, in point of actual time spent, the efforts of the average laborer. Here are a few of the many services rendered by the hospital intern, which help to place the staff under definite obligations to him." Thus spoke a "Professor Higgins" in 1930.

Six years later a "Colonel Pickering" wrote as follows:

"Perhaps the simplest method of approach is to chart the progress of the intern from the beginning of his service, asking ourselves a series of questions along qualitative lines:

"1. Is introduction to medical duties and responsibilities systematically provided?

"2. On beginning his duties in the emergency room and on the ambulance, is instruction given in minor surgical technics and first aid?

"3. Is attention paid to adequate grounding in ward technics as dressings, spinal punctures, clyses, venipunctures and examinations of body orifices, or must the intern learn them by practicing on the patient?

"4. Are nursing procedures outlined and demonstrated to the intern, so he may appreciate and supervise them properly?

"5. Is he introduced to the operating and delivery room with the same care as is a pupil nurse?

"6. At the bedside, are his observations given serious attention at the time of regular rounds?

"7. Is an outline for keeping medical records taught?

"8. Is there a tradition for the intern to summarize his observations and present them effectively both at rounds and at the regular departmental conferences?

"9. Are laboratory tests carried out as meticulously as in medical school, and are they performed in connection with study of an individual patient?

"10. Is reading of medical literature stimulated?

"11. Does an appreciation exist of the patient as an individual and of the importance of social, psychologic and spiritual factors in health and disease?

"12. Do the members of the attending staff comprehend their responsibilities as preceptors and take a personal interest in the objectives of each intern entrusted to their care?

"13. Is a method for systematic appraisal of the intern's work carried out?"

This psychological attitude has been discussed first, for it is of prime importance. Paper organization and activity charts are helpful as mechanical devices for attaining the desired end, but without the emotional desire to teach, staff organization and curricula are of but little avail. When this shift of attitude takes place and the intern is no longer treated as a convenience or as an automaton, but as a graduate student, it is well within the realm of possibility that, instead of receiving a stipend for services rendered, he will pay a fee for opportunities offered. A somewhat similar situation has arisen in nursing education, with what is believed to be a genuine improvement in the quality of nursing training and of nursing service. Fees collected from interns could be used to provide technical assistance and so free the interns from time-consuming, repetitious laboratory tasks or to provide secretarial help, so that their records may not only be more adequate but more legible.

The medical colleges would like to call the hospitals' attention to the fact that there is a very real shift in emphasis in medical education. This has been going on slowly in certain of the medical schools, but has been brought rapidly to the fore in the qualifications necessary for certification to the various boards of medical specialties. The fundamental change relates to specialty training. Instead of all specialties being completely "covered" for all medical students in the undergraduate years, detailed consideration of them is postponed until the period of graduate fellowship or residency. The basic curricula no longer include courses emphasizing the highly skilled techniques of the various medical and surgical specialties. The usefulness of specialty examinations, in order to arrive at a diagnosis, is receiving the stress which in the past had been placed on manipulative and highly specialized procedures.

The several boards for medical specialties have laid down qualifications for future certification to their individual specialties. In general, these include three years of graduate study, at least one of which will be spent in a laboratory of one of the fundamental sciences. The other two years must be devoted to supervised and graduate instruction in the wards and outpatient departments of hospitals. Attention is called to this point, for the hospitals which devote much time to the specialty services, will find their interns not only less prepared to man the services, but will find increasing pressure from the specialty boards to entrust such services to fellows or residents enrolled in recognized courses of training. At the completion of this organized graduate study, candidates may appear for examination and certification to their particular board. This certification will carry with it recording in the medical register. Thus, for the first time, the specialist will be differentiated from the pseudo-specialist and from the general practitioner.

It is to be lamented that there are not at this time enough opportunities for graduate training under university control or supervision. In all probability, medical colleges will look to the hospitals to provide these graduate opportunities for preparation for certification to the boards of medical specialties. When this time comes—and it is coming rapidly—much of the specialized work now being done by the intern will be turned over to the resident in that particular

branch of medical practice. Different hospitals have individual problems and opportunities for such special training. Medical colleges in their vicinities will probably turn to them to work out particular cooperative service. This may mean that certain members of the medical board will be included in the college faculty.

Important as this shift toward registered specialization may be, the medical colleges look to the hospitals to continue their very important function of preparing the rank and file of young graduates for general practice. That this function is now being consciously undertaken by the majority of the hospitals of the country, is evidenced by the fact that of the 705 hospitals approved by the American Medical Association for internships, 529, or 75 per cent, provide a rotating internship; 137, or 19 per cent, a mixed internship; 21, or 3 per cent, straight internships. The balance is made up of hospitals offering either rotating and straight, rotating and mixed, or mixed and straight services.

There is one very striking fact regarding the rotating internship. Of the 529 hospitals providing this type of service, 438 are for one year only; 20 for a year and a half; 56 for two years, the balance for varying times, between twelve and thirty-six months. Thus, 438, or 62 per cent of the 705 approved hospitals for internships in the country offer a one year rotating service. The educational value of this, the most common of all hospital internships, is worthy of question. Rotating services generally include medicine, surgery, obstetrics, pediatrics, laboratory x-ray, and, in some instances, specialties, necessitating a period of service on any one division of six or at most eight weeks. Such a service might be adequate for an individual who desired to use it as a background against which he could later take graduate work in a specialty. But is it not highly preferable to make this a really important phase of medical training for those who, immediately on the completion of their internship, intend to enter the practice of general medicine? It is the opinion of many that two years should be the minimum time for rotating internship. Some recommend that of those twenty-four months, six should be spent in medicine, six months in surgery—chiefly diagnosis and outpatient work; three months in obstetrics; three months in pediatrics, and six months of elective work in various specialties or in a chemical, bacteriological, pathological or radiological laboratory.

Such a schedule looks well on paper, but it does not take into consideration a situation which faces many private hospitals; namely, that they have more surgical than medical beds; fewer pediatric than obstetric cases. The care of the patients in the hospitals is of first importance, and those responsible for the organization of the hospitals must see that this is accomplished. Therefore, it may be out of the question to devise an intern schedule which will permit each man to devote as much time to medicine as to surgery, and to pediatrics as to obstetrics. Such a general division of service, however, should be sought and approached as nearly as is possible.

It is folly to attempt to lay down specific recommendations which will be helpful and applicable to 705 different hospitals, some of which are private; some of which are controlled by city, county or state; some sectarian—each with

its peculiar local heritage and characteristics. The interns who come to these hospitals are graduates of seventy-three medical schools on this continent, colleges whose aims and purposes are roughly alike, but whose methods of approach may be at variance, one with another. However, there are certain suggestions which can be made. Some of these have been disclosed by the study of Dr. J. A. Curran, of the New York Committee on the Study of Hospital Internships and Residencies.

A twelve months' internship of any sort is probably too short to prepare a man for general practice. It is admittedly too short to prepare an individual for a specialty. For the former aim, a two years' rotating internship should be adequate. For the latter, the specialty boards have designated three additional years, at least two of which shall be clinical. It, therefore, seems wise to consider lengthening the intern period to a minimum of two years. Irrespective of the kind of service, the medical schools believe that the interns should receive systematic instruction in the duties which they will be asked to perform. Each hospital has its own forms of recording. These should be explained, either verbally or through an up-to-date hospital manual. The techniques of special procedures, such as, spinal punctures, surgical dressings, special examinations, vary in each institution. The hospitals have a right to expect that the basic principles underlying these procedures, and some of the procedures themselves, will have been at least demonstrated to the medical student before his graduation, but routines of the hospital should be made clear to the intern, and responsible medical men should be certain that the intern is skilled in their execution. It seems essential that one physician on each service be held responsible for the instruction of the intern in the special duties and techniques of the particular service. This is particularly true with the training in the minor surgery of the accident room and the ambulance service. It is exceptional for the medical schools to supply good training in these emergency procedures, and as this forms an important part of the practice of the general practitioner, the medical schools look to the hospitals to furnish such guidance.

It is equally advantageous to have a single director for each service and to have him be certain that the interns comprehend difficult cases and to give the interns full opportunity for discussion of their opinions before the staff. The policy of recording provisional or pre-operative diagnosis by all members of the staff, including the interns, is indicative of this type of thinking.

Participation in clinical-pathological and general staff conferences is a point which has been so much belabored of recent years, that it need now be but mentioned in passing.

Many internships are so crowded with multitudinous and divergent duties, that no opportunity is provided for the careful consideration of and reading about particular cases. Assignment of specified reading and discussion of it by the staff has high educational value.

As most of the young physician's practice will be amongst the ambulatory ill, it is highly desirable that he devote a great deal of time in his internship to

work in the outpatient department. To obtain the greatest good from this experience, it is important that well qualified members of the attending staff not only be on hand for consultation work but to supervise the clinic. Well directed outpatient work is of infinitely more value than assisting at major or specialty operations. This latter form of training more properly should be reserved for the graduate fellowship or residency.

It is admittedly true that many of the suggestions just mentioned, and other similar ones which might be recorded, are already in force in certain of the 705 hospitals which are approved for internships by the American Medical Association. It is probable that a few institutions which are not included in this list may be conducting internships of high educational content. The evaluation of the internships from an educational point of view is an exceedingly difficult and time-consuming and expensive task, as is evidenced by the fact that it has taken more than two years of constant work to inspect the hospitals of Greater New York, and it will take one year more to prepare the report. If this is true in a large group of hospitals concentrated in a relatively small area, such as Greater New York, the difficulty of frequent inspections and classifications of hospitals throughout the length and breadth of the country can well be imagined. The educational importance of this phase of medical training had best be evaluated by men actively participating in undergraduate and graduate medical education. They should at the same time be aware of the difficulties of hospital administration. All effort should be bent toward standards and away from standardization.

The matter under discussion is of vital importance to several national organizations—this Association, the American Medical Association, the Federation of State Boards of Medical Examiners, the American Hospital Association and the American Protestant Hospital Association, the Catholic Hospital Association and the Advisory Board for Medical Specialties. To regional committees of some or all of these organizations there might be assigned the responsibility of inspecting, guiding and classifying the educational experiences of the interns and residents.

Such inspection would naturally include the hospital facilities, its aims and its purposes, and its standing in the community. As this would be a task of educational evaluation, it is essential that not only intellectual capabilities of the attending physicians be determined, but that they be scrutinized to ascertain whether in their contacts with the interns and residents, their attitude be that of a "Professor Higgins" or of a "Colonel Pickering."

Continuation of Medical Education During The Hospital Internship*

CLAUDE WORRELL MUNGER

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President, American Hospital Association,
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May I register the appreciation of the American Hospital Association, as well as my own thanks, for this opportunity to present to you, a few thoughts on a subject of timely interest to your field and to mine?

I shall try hard, in my share of this symposium, to keep within the province of the hospital administrator. But, if I should stray beyond that boundary, I ask your indulgence and remind you that medical faculties have been known to express ideas on the details of hospital management.

No one has given me a satisfactory reason for my selection to discuss this subject. I feel I should tell you that while I have had to do with the hospital training of a few hundred young physicians, I have never been the administrator of a teaching hospital, in the accepted sense. Experience has convinced me, however, that every hospital worthy of notice, is and must be not only a service, but a teaching organization. The extent of this teaching attitude is usually an important determinant of the success of the hospital as an instrument for community service. Because the medical school, in times past, was able to give a reasonably complete view of the medical sciences in a four year course, it is not surprising that the earlier educational efforts of hospitals were in the allied fields rather than in medicine itself. For sixty years, the hospital schools have been the *sine qua non* of nursing education and, latterly, we have offered educational opportunities in laboratory and x-ray techniques, in dietetics, in medical record keeping, in physical therapy, in anesthesia and a dozen other activities.

We have long recognized the hospital's strategic position for bringing post-graduate educational values to physicians. We have relied too much on a theory that medical men would absorb this education by a kind of osmotic process—in the course of their work. There has been some formal attempt in recent decades to bring instructive experiences and meetings to attending staffs. That is, although an important advance, outside of our subject. Only recently has the hospital administrator begun to help, actively, in meeting the need of the intern for added educational values in his hospital service.

This impetus has come, in part, from insistence of medical schools, who realize that their graduates are, by no means, finished products. Much has been due, however, to a realization by the hospitals of the deficiencies and needs of the recent medical graduates, who, annually by thousands, enter hospitals in the hope of being "polished off" into adequate practitioners of the healing art.

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*Delivered at the Forty-seventh Annual Meeting of the Association of American Medical Colleges, held in Atlanta, Georgia, Oct. 26-28, 1936.

The early conception of the hospital internship was undoubtedly that it should be a mere exposure to a hospital in action—a chance to see sick persons before, during and after the ministrations of the members of the senior staff. The educational content of the internship, to quote Dr. L. R. Wilson of Galveston, "is a subject to which the staff and administration of the hospital have given too little attention. Too often the intern is merely turned loose in one of the hospital's divisions, is given very little guidance and is forced to find his own way about and to learn his duties by chance."

In relation to our present subject, I want to reiterate a point of which medical educators must surely be conscious, but which, in my opinion, should have more real attention, viz., the fact that but a small percentage of the annual increment of medical graduates can hope to secure internships in hospitals attached to medical schools. Non-teaching hospitals, with superior staffs and clinical opportunities, need more interest, encouragement and advice from centers of medical learning. They could do a better job for interns if academic circles would encourage them more and not hold the attitude that the non-teaching hospital cannot develop a good internship. I believe I would favor a plan by which every medical school definitely affiliated itself with enough good hospitals to provide the number and variety of hospital appointments needed for its graduates. This, I know, has been done, at least in part, by some schools. In fact, I should like to find some easier means of picking a dozen good interns a year, than the review of 300 applications and the holding of scores of interviews. Extended cooperation between schools and hospitals could solve that problem.

Some medical faculties are advising against rotating internships, some are definitely in favor of them. This leaves the hospitals uncertain as to how to organize the opportunities which they can offer. For the sake of argument, I should like to say that every intern should have a look at various fields before he settles down to a specialty. The rapidly evolving plans for training and certification of specialists, all requiring three or more years of training beyond the internship, would, I think, argue for rather than against the diversified experience in internship. For the ease and comfort of service chiefs and also of hospital superintendents, the straight service is preferable. I am perhaps an oddity in believing it to be less valuable to the intern.

In collecting material for this paper, I wrote a dozen leaders among the physician-hospital administrators of the country. I find that some have given deep thought to the matter of medical education for the intern and that most of the hospitals replying have effective educational programs for house staff. This does not mean that such is true of the rank and file of hospitals but, from my rather extended knowledge of that field, I would say that hospital administration is showing encouraging interest in the subject and that some real teamwork between medical colleges and those hospitals to which they send, or would like to send, interns, will bring a surprising degree of cooperation. Several of our leaders and the American Hospital Association, itself, have urged establish-

ment of carefully planned educational opportunities for hospital house officers, both interns and residents. To accomplish this, our field needs your help and advice.

In Philadelphia, last week, the American College of Surgeons heard from Dr. Harold L. Foss, an inspiring account of what the Geisinger Hospital, Danville, Pennsylvania, is doing in house-staff education. That is a hospital of 180 beds in a town of 6,000 population. Such a program is surely possible in several hundred American hospitals.

One of my administrator colleagues expressed mild apprehension at too great an extension of academic influence and viewpoint into the internship. He says "I believe that the intern is entitled to a different educational fare than he has had as a medical student. It seems to me that the internship should bridge the gap between formal education and those informal self-educational processes which are so important of acquirement to the physician who is to continue to grow." This man believes that such lectures as are offered at the hospital "should be arranged by the interns themselves, the administration giving them all the help needed in making the arrangements. Let them choose the subjects and the lectures and do not insist that they stick to the field of medicine exclusively."

Another administrator of a preeminent teaching hospital says, "While it is theoretically desirable that interns be given all the educational advantages that a hospital can lay before them, it should be remembered that they have completed four years of that kind of education; that they are under considerable pressure in the care of patients and in carrying out the directions of their seniors; that they need to use their leisure time to get away from the institution or to sleep. The value of courses set up by the hospital authorities should be carefully weighed to see if they justify the loss of the interns' free time." The same man answers his own doubts, I think, in saying further along in his letter that the solution might be "to have more interns so that with more hands" there would be more free time for educational pursuits.

Ten other hospital administrators who answered my inquiry believe definitely that educational enrichment of the internship is not only desirable but entirely practicable. The head of a midwestern university hospital believes that "the internship should be considered as continued, postgraduate education," although he doubts the soundness of the plan in some schools of withholding diplomas until completion of the internship "unless the medical schools themselves are willing to spend more time in close supervision of the internships which they accredit." Although the speaker has the greatest admiration for the work the American Medical Association has done in accreditation of internships, he doubts if their inspection is yet sufficiently close to evaluate more than mere quantity of educational content. The quality of what is offered is, of course, all-important.

Another administrator, for whose judgment I have the greatest respect, says, "The hospital must be organized to make full use of all by-products of bedside

service. It is recognized, of course, that the primary function of the hospital is in the diagnosis and treatment of disease. The important by-products are education and research. These should be considered together in the formulation of the educational program, inasmuch as they are closely related and interdependent. Hospitals should provide opportunity for graduates in medicine to see not only the medical but also the social side of hospital care." He further says, "The conservation of the intern's time for educational purposes must be kept in mind, with care to avoid his exploitation by depriving him of educational opportunities. Quite aside from matters of medical ethics, the hospital should maintain a cultural atmosphere for the intern staff. Those qualities which go to make a cultured physician should be considered in planning an educational program."

It has seemed so desirable to discuss the background of our subject and to give a cross section of informed hospital thought, that I shall have to present, all too briefly, an account of what progressive hospitals are actually doing to supplement the crowded curriculum of the medical school and to increase the value of the clinical phases of the internship.

As mentioned above, in quoting Dr. L. R. Wilson, the newly arrived intern needs a great deal of help in orienting himself to the hospital scene. He needs help in adjusting himself to the methods and routines of the particlar hospital and in generally finding himself so that he may, without undue delay, fulfill his duties and begin to learn. At our hospital—and I apologize for continual reference to our own experience, we aim that each new intern group, within a few days of arrival, shall have the following contacts:

1. Two or three sessions with the assistant medical director, who acts, throughout, as the administration's mentor to interns. These sessions include specific mention of many matters in which our experience has shown the intern to need information. Each man receives a mimeographed "intern's manual" which is his bible reference until he has learned his way about.

2. A talk from the director who explains the intern's place in relation to the administration, the medical staff, the nursing and other hospital departments. Ethical points are discussed and the men are impressed with our desire to deal as gentlemen with a group of gentlemen. We attempt not to impose any "blue nose" rules but we do emphasize that we rely on the fact that we are dealing with gentlemen who have had unusual advantages in education and culture.

3. A conference with the director of laboratories who explains the relation of his department to the clinical work and to the interns particularly. Invitation is given to men to drop in and talk over any special skills or interests, research or otherwise.

4. A similar meeting with the director of the x-ray department.

5. A talk by the chief social worker, explaining the usefulness of medical social service to the doctor, outlining routines, explaining need to cooperate.

6. A session with the dietitian.

7. Meetings with heads of nursing and other departments closely related to the medical work.

8. Conferences with the medical administrative officer in charge of the outpatient, admitting and emergency departments.

9. Instruction in ambulance duties.

10. Sessions with the chief and resident of clinical service to which assigned.

The methods of imparting clinical experience and instruction in wards and clinics need not have detailed mention here. I should like to record my personal impression that service in an active, well organized outpatient department is of great value to interns. A recent questionnaire, sent to our intern alumni by one of my colleagues, brought enthusiastic affirmative replies from all to the question: "Has your experience in the clinics been of value to you as a practitioner?" and, "should outpatient service for interns be increased?"

Experience in laboratory, autopsy room and x-ray department are important parts of any internship but their ultimate value will depend on the effectiveness of presentation of these opportunities. A pathologist or a roentgenologist without enthusiasm for and ability in teaching has no place in a hospital attempting to educate medical men. The volume of autopsy work should be ample. I see no excuse for the administration of a hospital where less than 50 per cent of deaths are autopsied.

The clinico-pathologic conference can be highly instructive and must of course be open to interns who must be permitted to engage freely in discussions. Every meeting of the medical staffs (only excepting executive business sessions) should and must be open to house officers. House officers, with us, bear most of the load of preparation of material and cases for medical meetings and, as a rule, the interns make the primary presentation of case material followed by discussion from the staff.

Although not connected with a medical school, our hospital has a dissecting room and is able to secure prepared cadavers. When the pathologist announces (2 or 3 times a year) the impending arrival of a cadaver, the various services, mainly the surgical ones so far, "reserve" portions and hours desired for dissection. The dissecting teams usually include intern, resident and attending man. This arrangement has been comparatively easy to make and we believe it has real educational value.

Accumulation and replenishment of a good working medical library is not easy in the isolated hospital but as an educational program is impossible without it, it behooves the administration and staff to see that it is provided. While we have a fair complement of medical books, we spend as much or more for journal subscriptions as for new books. Whenever possible, the library should be open in the evenings for the benefit of the interns. A library committee, with a chairman from the staff but with at least one member who is close to the administration and exchequer, is essential. The potential educational value of the hospital's library of case histories is enormous. It goes without saying that these should be filed properly and readily accessible to the house staff. There must be a place, usually the medical library itself, where the men may study journals, books or

case histories in quiet and comfort and with no regulations against smoking or late hours.

In the course of a month, any sizeable hospital can have a number of medical events of instructive value to interns. The monthly program of the general staff is certain to be valuable. Likewise, the monthly meetings of the divisions of the staff are even more intimate and informal and can have fine educational content. Interns should be required to attend. We have a sizeable auditorium which enables us to accommodate monthly meetings of our county medical society. Interns attend and hear important medical speakers, often imported from a distance, and also may listen-in on discussions of medical economies and other problems of the practitioner. Two or more clinico-pathologic conferences are held each month with previous circulation of mimeographed summaries of cases of unrevealed diagnosis which are to be discussed at the conference.

A planned course of lectures, talks, exhibitions of medical moving pictures on pertinent subjects is carried on through the year. Especially where interns remain for two years, it is possible to cover a great many fields by this means. Examples of what we have presented or expect soon to present to interns in this manner include:

1. A 5-week series of one hour talks by the County Commissioner of Health and four of his principal department heads. Material presented included: (1) Relations of Public Health and the Practitioner; (2) Epidemiology and Relation of Practitioner to Communicable Disease Control; (3) The Place of the Public Health Nurse in the Community Program; (4) Public Sanitation; (5) Vital Statistics.

2. A series of twelve lectures on all phases of tuberculosis work, by specialists from our own staff.

3. Talks on psychiatric and community mental hygiene problems by staff psychiatrists.

4. Prescription writing and relations with pharmacists—by a pharmacist practicing in the community.

5. Presentation of DeLee's films on "Obstetrical Deliveries under Local Anesthesia."

6. Kanavel's film on "Infections of the Hand."

7. Film depicting complete 24-hour care of young infants—including material on both bottle and breast feeding.

8. Neurology in relation to medical practice.

9. A series of talks by the members of each hospital staff division, dealing with practical points related to each specialty.

10. "Toxicology in Criminal Cases" by a member of the staff.

11. Demonstration by our own nursing department of common nursing procedures which the family doctor should know and be able to teach in the home.

12. School Medical Supervision.

13. Medico-dental problems.

14. Business procedures for the practitioner.

15. Occupational therapy and rehabilitation of the handicapped.

16. How to utilize community resources on behalf of patients.
17. Medical jurisprudence.
18. Hospital administration.

Our hospital is in the country, but is fortunate in its nearness to New York City. At present the Medical Fortnightly Series of the New York Academy of Medicine is in progress. We have purchased some season tickets and have been given some complimentary ones so that we have been able to make up a schedule for sending two or more interns to each of these valuable lectures.

The Academy also extends the loan courtesy of its excellent library and our librarian is constantly borrowing material needed for preparation of papers in research studies, etc. Similarly, we frequently borrow from the State Library and from the libraries of the American College of Surgeons and American Hospital Association.

For its influence on the general morale and steadiness of the intern group, I merely mention that a small loan fund is very valuable.

Recreation is, of course, important. Our interns' baseball team, this year, for the first time was able to uphold its professional dignity by beating the employees. In fact, one of the men now with us, in urging us to consider a friend for appointment next year, added, "And he's a good left-handed pitcher, besides." The men use our swimming pool a great deal, play basketball and badminton in the winter, but their favorites seem to be tennis in good weather and ping-pong at any time. We are fortunate, of course, in having so many resources of this sort but we have purposely developed them because of our essentially country location. Any hospital in a city could get equal facilities in the nearest Y.M.C.A.

Exposure to cultural advantages, outside of medical culture, is less readily possible and we have not done enough in that respect. The heavy program already carried by the interns leaves little time for music, drama and the like. Frankly, I have hesitated to enlist the aid, for instance, of the Junior League, in enriching the men's social life lest they enter the plan with more enthusiasm than the work could stand. As you would surmise, we keep the intern pretty busy and we believe, with our friend quoted above, that we had better leave him some time for reflection, for sleep or for getting entirely away from the hospital.

I believe we must guard against any loss to the intern of the practical clinical experience for which he, primarily, comes to the hospital. There is no doubt in my mind that it is possible so to fit education into the clinical schedule as to enhance the value of both, to increase the intern's usefulness to both patient and hospital and to increase his skill as a practitioner later on.

DISCUSSION

On papers of Dr. Babbott and Dr. Munger

DR. J. ROSCOE MILLER (Northwestern University): These papers are unusually timely. Those of us who require an internship before granting the degree Doctor of Medicine find ourselves under some moral obligation to see that the internship is a good one. At Northwestern University we augment the information furnished by the American Medical Association by asking our interns to give us a report three times a year on their internship. In this report we ask specific questions: how much instruction they get; whether consultations are held; training in the outpatient department, and so on. From this we draw up a list of internships which we think give adequate fifth year training.

If all hospital administrators were like Dr. Munger, we would not have any trouble. Unfortunately, they are not. Many consider interns a necessary evil, essential to do routine work around the hospital. They often overlook the fact that some education is also necessary, and is, in fact, the reason for their presence. I was glad to learn from Dr. Munger's paper that this was being brought to the attention of the American Hospital Association.

DR. LOUIS B. WILSON (University of Minnesota), Rochester, Minn.: These two papers touch very closely on phases of graduate work in which those of us who are interested in preparation for the specialties are particularly interested. Some figures which have been given are very suggestive. There are a few others.

At a recent meeting of the Advisory Board on Medical Specialties we had reports from representatives of the several specialty boards which covered the possibilities for three years of training in the various hospitals in the United States. A very conservative estimate of the number of opportunities of that sort which should be available annually was placed at 400; in other words, about one-tenth the annual medical graduates.

On the other hand, a very liberal estimate of all those opportunities now available, that is, three or more years of training in a definite field after the internship, was placed at 170. In other words, there are less than one-third as many such opportunities now available as the several boards think should be available.

The relationships of this work to the internship have been pretty definitely discussed. It seems to me the future practitioner of any form of medicine should devote the greater portion of his time during his internship years to the study of that type of case which he expects to see in his practice afterwards. If he is to be a general practitioner, in which perhaps ninety or ninety-five per cent of his cases are the ordinary variety, he should have a broad and thorough experience with general cases, with the usual cases, not the unusual, not the complicated, but the uncomplicated, simple cases.

The next thing is the necessity of having more interns than we need. If the hospital takes on twice as many or three times as many as its needs, then the interns can do something besides what they have to do. The things they do which they don't have to do are more important than the things they have to do.

The next principle is this: the specialist is a man who is called in consultation. Whether he is surgeon, internist, proctologist, or what not, his job in the future is to see the unusual case, the case which the general practitioner hasn't the facilities for diagnosing nor for perhaps treating. After his internship in his residency, the resident should have opportunity, with an inspiring teacher, to see unusual cases and to learn the technique of unusual, difficult methods of diagnosis and methods of treatment. Therein lies the difference between internships for general practice and residencies and assistantships for specialty training.

The function of most hospitals must be largely for preparation for general practice, because that means the life function of ninety per cent of all our graduates.

There is a relatively small number of hospitals that have the facilities, the clinical material, the laboratory associations, and the inspiring instructorship, which is the most essential thing of all, to warrant men spending three or more years to get adequate training in a special field.

I hope that as the colleges take up this problem with the hospitals, they will avoid any form of regimentation which continues the graduate student for three more years after his internship under mediocre supervision with inadequate material and with inadequate laboratory service.

DR. A. C. BACHMEYER (University of Chicago): I have not very much to add to these splendid papers, except to say this: A large number of these 700 hospitals approved for internships are comparatively small institutions. It has been my experience, in working with hospitals from the medical college point of view, that the best cooperation, the best results were obtained when the college made contact with members of the staffs of these small hospitals. The administration of these small hospitals very frequently reflects the attitude of the staff. Where the medical men do not show an interest in medical education, the internship is a source of annoyance to both the college and the hospital. When you get a group of the staff, a committee, or one or two men who have an interest, who understand what the college wants, they will then develop their internship on that basis, and much will be gained by the intern and the results will be generally satisfactory.

I think, from experience also, I may say that these hospitals welcome the counsel, the advice and the interest of the medical college in their work. The trend today in the American Hospital Association, which is asking for the assistance of this Association and the Council on Medical Education, to develop procedures, to develop suggestions for the hospitals, is an indication of the desire on the part of hospitals to have worthwhile internships.

DR. JOHN WYCKOFF (New York University): I have very frequently heard it said that a program such as has been discussed by both the speakers this morning interfered greatly with the intern's work. That is not always true.

A systematic arrangement can be made so that one hour a week of an intern's time can be made a very important element in his life. If you just think that an hour a week, in either seminar or discussion, would mean fifty-two hours a year in a one-year internship, you can see that a large number of subjects can be covered and without taking away from the time of an intern. It has been my experience that where programs such as Dr. Munger has described have been introduced, actually more work is carried on in the service, rather than less work.

The Oneness of Objectives of the Association of American Medical Colleges, of the Council on Medical Education and Hospitals of the American Medical Association and of the Federation of State Medical Boards*

J. N. BAKER

Secretary of the Alabama State Board of Medical Examiners and
President of the Federation of State Medical Boards,
Montgomery, Alabama

As the official spokesman of the Federation of State Medical Boards, may I ask that my first word to you be one of grateful appreciation, both from myself personally and from the Federation of State Medical Boards, for the privilege of participating in the deliberations of this distinguished and earnest group? Not ofen does it fall to the lot of a lowly state health officer, whose prime vocation in life is specialization in the field made famous by Chic Sale, to partake of such an elaborate pedagogic and mental repast as is here spread before him. My unfitness seems all the more glaring when the humble confession is made that not since my departure from my Alma Mater have I been privileged to have a hand in the shaping or moulding of the youthful mind for a medical career. Consequently, it would be more than impudent presumption on my part to vouchsafe advice to this group whose activities and very life blood are being consecrated to the high and noble cause of feeding to society individuals trained and fit to perform one of its most important functions. This shall not be attempted. However, it so happens that in the State from which I hail—Alabama—there exists an anomalous and unique legal submergence into organized medicine of very many, if not all, of the responsibilities incident to the administration both of licensure and of public health. That is to say, the state health officer, elected by, and from the membership of the State Medical Association, is made the executive officer of organized medicine, which group, in turn, is vested, by law, with the direction and control of these two very important activities. One is likely to exclaim: "Rather a staggering load with which to saddle organized medicine." It is. The record, however, will thus far show that these obligations, imposed by the people on the shoulders of the medical profession, have been met by it in such a spirit of altruism and of earnest desire to render distinct public service that the succeeding legislatures, since 1875, have not seen fit to make alterations. While it is true that the medical profession's responsibility in such a scheme is, indeed, considerable, its value to the people, when sanely and properly administered, need scarcely be commented on here. This intimate dual relationship of public health and licensure in Alabama, therefore, accounts for my presence before you today; and, with your permission, my few remarks will be directed towards an effort to focus attention on some of the problems in medical education which should be of vital concern to, and which may rightfully claim

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the attention of, the three groups embraced in the title of this paper, viz: the Association of the American Medical Colleges, the Council on Medical Education and the Federation.

First, it should be borne in mind that, of these, the Federation alone, through its component state licensing boards, has a recognized legal status. The prime function of these boards in the several states is to safeguard an undiscriminating public from the evils lurking in the practice of the healing art by the incompetent, the illy trained, the predatory minded and the law violator. The legal arm of enforcement derives from the police powers vested in such boards. The history of the origin, the development and the need, during the past half century, for the protection afforded by these boards, due to the rapid physical expansion of our country, to its mounting population and to the mushroom growth of a superfluity of medical schools, many of which were frankly commercial, coupled with the springing into life of numberless cults and "paths," is a story which should be quite familiar to medical educators.

At the dawn of the present century, there were 160 medical schools in the United States and Canada, the quality of many of which being far from savory. At about this time, also, we see the licensure boards in the several states putting forth strenuous efforts to strengthen their own personnel through the selection of examiners based on merit and scientific attainment, rather than on political preferment; to improve the quality of applicants through the legal enactment of more rigid requirements for entrance to examinations, as well as by elevating their own standards for qualifications to practise. In 1907, there was begun by the Association of American Medical Colleges and the Council on Medical Education and Hospitals probably the most outstanding piece of investigative and standardizing work ever undertaken by voluntary agencies. In all of your labors, as you know, the Federation has stood solidly behind you, upholding your hands with all the moral and legal suasion of which it was capable. To these joint efforts at purification on our part, there was added, in 1915, the by no means puny forces recruited under the banner of the National Board of Medical Examiners—still another non-official agency—whose objectives and aspirations have been identical with ours. Throughout the entire pattern of the fabric woven by these joint forces, one clearly sees coursing the "central thread of high idealism" which, in all the centuries, has made of medicine a thing apart.

While the results thus far obtained have been gratifying in the extreme, the job ahead is by no means completed. The resurvey, inaugurated some two years ago by this trinity of forces, but not yet evaluated, will most certainly point the way to still other innovations and reforms to meet the demands of a rapidly changing social order. Regardless of what these demands may be, one may feel assured that the future of American medicine is secure so long as it is entrusted to these groups working in unison and harmony. Misunderstandings and minor frictions there may have been at times; but never a shattering of the oneness of objective for which all were striving. Probably, one of the most valuable lessons growing out of these joint labors has been an appreciation, not

only on our part but also by the entire medical profession, of the acute need within our ranks for men of stamina, of courage and of a moral fibre adequate to meet their high professional obligations and correctly to interpret the profession to the public. At the 1936 meeting of the American Medical Association, it was heartening to see the House of Delegates of that organization giving earnest consideraion to the question of narcotic addicts and violators within the profession and urging both individual members and constituent associations to fully and sympathetically cooperate with state licensing boards in their efforts to apply adequate disciplinary control. Such interest and moral support on the part of organized medicine will serve as a real impetus to these boards in the handling of this exceedingly difficult and delicate problem. At this meeting, this organization likewise took cognizance, through suitable resolutions transmitted to its Council on Medical Education, of the need, on the part of medical schools, in the selection of student material, for evaluation along moral and character lines, as well as on purely academic proficiency.

So well have the Association of American Medical Colleges and the Council on Medical Education performed their difficult tasks in all matters pertaining to the curricula of medical schools, that the Federation, in grateful acknowledgment, now reserves to itself merely the legal requirements of fitness determination and enforcement regulations. In the light of the knowledge gleaned from the experience of these testing years, the charting of our future course should be, not only simpler, but also productive of even more fruitful results. In order to accomplish the common objective set for ourselves, it would seem quite essential that the members of each group cultivate an intimate familiarity with the activities, responsibilities and limitations of the other two groups, in order that co-operative efforts may be enhanced even more. Licensure boards should make themselves thoroughly conversant with the many difficult problems for which medical educators are attempting to find a solution, just as medical educators should not become so intensely engrossed in the pedagogic phases of medicine as to quite lose sight of the social and legal implications of the student in after life. It hardly suffices to say categorically to a student body that, "on taking leave of you, there is still a final hurdle to be cleared and that it might be well for each to arm himself with a manual of "State Board Questions and Answers." Let the future practitioner learn from you, while still within your portals and under your spell, something of his own legal responsibilities and obligations to society as well as those of his profession, before he actually launches on the sea of life.

While still in a somewhat chiding mood, may I be permitted to drop to this group a further suggestion? As stated above, during the past few years I have developed into a specialist, taking with me, in all probability, all of the evils of mental myopia and strabismus so likely to haunt specialists in any field. Of late I have been much interested in attempting to ascertain the degree of emphasis placed on, and the teaching facilities provided, in the curricula of medical schools for the basic things in preventive medicine and public health. Into this category would logically fall such tremendously important things as venereal

disease and tuberculosis control; mental and industrial hygiene; mental delinquencies, feeblemindedness and the psychoneuroses; child health and antenatal and postnatal care. Society, neither financially nor biologically, is capable of indefinitely withstanding the mounting loads now being heaped on it from sources such as these without having violence done its essential parts. Future practitioners should be taught the rôle played by syphilis and its damaging end results to the nervous system, in crowding jails, almshouses and mental institutions. Likewise, they should be impressed with the fact that the present high maternal death rate can be dealt a telling blow through adequate antenatal care and the observance of proper obstetric technic. These salients of medical practice are full of hopeful promise, once the individual practitioner recognizes and discharges his obligations. I would not presume to suggest that medical schools endeavor to produce specialists in any line. True specialism is an intellectual adornment born of years of ceaseless toil in a restricted field. Your function, of course, is to produce safe, well rounded, well grounded practitioners of modern scientific medicine. However, in order to reach this much to be desired goal, has not the time come for each approved medical school to make some sort of adequate provision for instruction in this rapidly expanding and increasingly important field of medicine? Every medical pupil of today should have a clear concept of the functions and responsibilities of the federal, state and local boards of health, as well as of his own individual obligations in the matter of full co-operation with each such agency. Without such co-operation, of how much real value will be the statistical data, both federal and state, accumulated, each year and throughout the years, bearing on mortality, morbidity and births? Dependable data of this sort are the very heartbeat of sound public health programs; constituting, in essence, the diastole of planning and the systole of execution. It is a matter of record that the plan for the utilization of health department staffs now in operation in certain states—one of which is Alabama—seems to work admirably well. The thought is here injected that this plan, or some modification, might well be expanded to an even greater degree of usefulness.

Another question of absorbing interest to the groups embraced in the title of this paper is that of the rather rapid swelling of the ranks of organized medicine because of a steadily mounting increase in the numbers graduating from medical schools. It appears that for the United States as a whole we are exceptionally prolific in this regard, there being now 161,359 physicians, representing one to every 780 of the population. In 1935, there were added to the profession 5,500 licentiates. During the same period, there was a loss, through death, of about 4,000, making a net gain, for this year, of some 1,500 physicians. Seemingly, to quote the words of Secretary Zapffe, "The urge to study medicine goes on unabated." Quite naturally, to the medical educators of this country, who, if one may be permitted to make such comparison, might be viewed somewhat in the light of directors of the plants charged with the responsibility of furnishing to society this necessary human commodity, this problem is one of more than passing concern. Of real concern is it, also, to society at large, tran-

scending in importance to it, such immediate or material interests of either the medical schools or of the medical profession.

The scientifically trained medical man is, today, as, or even more, necessary to human progress and uplift than any of the physical forces now at play. It is a well known and accepted fact that were all or most of the available medical knowledge wisely and generously applied to the population group as a whole, one would witness, almost forthwith, a tobogganing of mortality and morbidity rates and an encouraging upswing in the robustness curve for the individual citizen. During recent years, neither the public's capacity to utilize intelligently, nor the profession's ability to distribute uniformly, has kept pace with the prodigious strides made by modern scientific medicine. It may well be that, when these important factors of supply and demand, as they pertain to medical care, become better understood and more equably distributed, not only better, but more, physicians will actually be needed. It must ever be borne in mind that education as to the need and desirability for scientific medical care is one important factor in creating such a demand. As has been well said by Dr. Milikan: "The growth of civilization may be defined roughly as a process of multiplication of human wants . . . There is one great new want which has been created by our increased productivity, namely, the educational want. Education has a capacity for consumption which is wholly unlimited and wholly beneficent, if wisely used."

So intricately complex is the entire question of adequate medical care, and so closely intertwined is it with problems of economics and sociology, as well as with those of immediate concern to the profession of medicine itself, that immature or illy conceived methods of solution should have no place. It by no means necessarily follows that the doctrine of scarcity which has been recommended and applied by economists in an effort to solve the material and financial woes of a sick society would prove the proper or even a sane approach to a problem so involved as medical care. Should we, who are interested in medical education, both for now and for the future, permit ourselves to become too profoundly perturbed by the somewhat gloomy prognostications of the statisticians? These honored gentlemen tell us that we are fast approaching the point of populational saturation and that on or about the year 1960 our birth and death rates will reach a balance. Granted that this might prove to be true. In the meanwhile, should society, as a whole, learn to appreciate and to utilize scientific medical service in the same fashion as it has greedily gulped down the motor car and the radio, who would make so bold as to say more doctors would not be needed?

These points, briefly and imperfectly hinted at above, are some of the things to which medical educators, licensure boards and the entire profession of medicine should be giving serious thought. Without their leadership and aid, one need hardly hope for an ultimately satisfying solution.

In closing, and because the thought therein contained will bear repetition and is tersely and beautifully expressed, I shall take the liberty of quoting

briefly from an address delivered last year before the Federation by Dr. Eugene A. Gilmore, president of the University of Iowa, on "The Responsibility of a University in Medical Training":

"The development of an historical perspective and adequate appreciation is peculiarly the function and, it may be, the chief responsibility of the university in medical training. There is no other agency through which this end is more likely to be realized. Its realization will come through a broader and, for want of a better word, a more cultural education, both in the premedical and the medical periods. The university must, of course, continue to train men adequately in the science of medicine. This means, however, an approach to science in no narrow and immediately vocational attitude but an approach in the spirit of all university studies. It must likewise train men adequately for the practice of the art of medicine. Here it may let the vocational objective predominate, but the pursuit of a vocational end can be made in a liberal atmosphere. There is a third function which the university should assume, and that is the orientation of the prospective physician in a large and cultural general education which will enable him to perceive and appreciate the possibilities and potentialities of his own profession and also to perceive and appreciate the social implications and responsibilities of his profession. Such orientation can be made by the liberalization of the present premedical and medical courses. Its more perfect attainment will come, however, when the technical medical course rests on the general education represented in the curriculum of a college course in liberal arts. With the rapidly increasing number of young people coming into the collegiate levels, it is safe to assume that an increase in the requirements as to general education will not permanently restrict the number of those who eventually come into the profession.

"I would not venture to fix the content of the curriculum in medicine, but if the university is to be charged with a responsibility for medical training, it might properly insist that the present medical curriculum proceeds too much on the assumption that education, even professional education, is a mere process of acquiring information. The results of this assumption is a tendency to load programs of professional education with a maximum of informational topics which it is felt a physician should know. This attempt to teach all things to all men represents an unwarranted faith in mere information. It overlooks what should be continually kept in mind in any program of sound and adequate education, namely, that truly educated men can be trusted to learn some things for themselves."

Report of the Committee on Aptitude Tests for Medical Schools*

F. A. Moss
Director of Study, Washington, D. C.

THE TEST OF DECEMBER 6, 1935:

On December 6, 1935, your committee carried out a program of administering the aptitude test to students expecting to apply for entrance to the medical schools in the fall of 1936. The form of the test used (Form 8) consisted of the following parts: (1) General Information; (2) Vocabulary; (3) Spelling; (4) Logical Reasoning; and (5) Understanding of Printed Material. This form of the test is somewhat different from the forms used in the past, the main differences being that the Preliminary Study Sheet and the anatomical drawing were dispensed with and the test of general information was added.

The mental processes which it was hoped to tap by each of the tests are, briefly, as follows:

Test 1 consists of selected items from the fields of history, literature, government, economics, geography, general science, sports and transportation. In addition, a certain number of items designed to measure social intelligence or ability to get along with others were included. This test meets the widespread demand from many of the admission officers that some part of the medical aptitude test should indicate how well and how intelligently the student has profited by his general studies and contacts as contrasted with the more technical training which he would get in his required premedical training in biology, chemistry and physics.

Test 2 is a specialized intelligence test based on the student's knowledge of premedical work and his general reading and information. It is only logical that the more familiar the student is with medical and scientific terms, the better he will succeed in the medical course. Moreover, if he has had a continuing interest in medicine, one would have expected him to have done some general reading along that line, and to have picked up aside from his premedical course a certain amount of information as indicated in his vocabulary. This test of ninety items gives a fairly good indication of the student's background, interest and specialized ability in this field.

Test 3 is a spelling test consisting of forty items. In a number of our discrepant cases of students who do fairly well on the test, but still fail or get very low grades in the medical school, it has been stated that the students fell down on the written work because they could not speak and could not write proper English. It was decided, therefore, to introduce a short section designed to measure their ability to recognize words that were spelled incorrectly when they saw them. This also measures visual memory.

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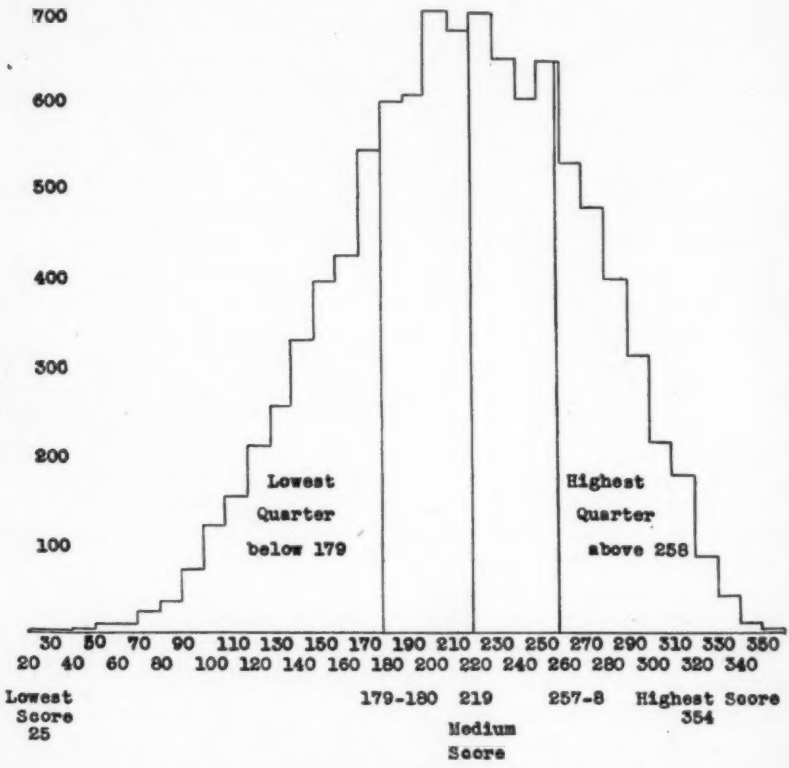
*Delivered at the Forty-seventh Annual Meeting of the Association of American Medical Colleges, held in Atlanta, Georgia, Oct. 26-28, 1936.

Test 4 is designed to measure the student's ability to draw logical conclusions from a given set of data. Much of the future work in medicine will depend on such ability.

Test 5 is designed to measure a student's ability to understand very difficult printed material when he has it continually before him. In accordance with the suggestions of Dr. Chesney's Committee, the amount of material given in this section of the test was doubled. In this instance, a passage was selected similar to one the student might find in a course in pharmacology and also one which he

CHART 1.—Total Distribution of all the Total Scores.



would find in obstetrics. The student has enough time to read the passages over and then refer to them as often as he wishes in answering the thirty questions. If he is unable to understand such passages as the above, the chances are against his understanding similar passages in connection with his medical course. There is one element, however, which must be considered in connection with this test. Inasmuch as it is the last test, the student who is by nature very slow may have consumed so much time on the other tests that he will not do himself justice on

this particular test. In general, however, the student who is slow will also be handicapped when he gets into medical school, because in the medical curriculum, as probably in no other professional course, will the student be so loaded down with material that if he is extremely slow he will find it impossible to master the work. While the series of five tests which make up the medical aptitude test as a whole are not designed as speed tests, it is inevitable that the rate of working should be a factor in determining the final score. Also, in the medical course, while the assignments are not designed to force the average student to work faster than his normal speed, it is inevitable that the slow student would have to work faster than his normal speed in order to keep up with his medical assignments. In other words, if one student can learn a given assignment in medicine in an hour, whereas it takes another student two hours to learn the same assignment, it is quite obvious that the fast learner will have twice as much time to put on his other assignments as will the slow student.

Using this test, 10,671 tests were administered in 624 arts colleges during the fiscal year 1935-1936: 44, from September 1, 1935, to December 5, 1935; 10,285 between December 6, 1935, and January 25, 1936; and 342 since January 26, 1936.

The total scores made on Form 8 ranged from 25 to 354 (out of a possible 370). The median total score was 219, one-half of those taking the test falling above this, and one-half below. On total score the highest quarter made above 258; the lowest quarter below 179. The total distribution of all the total scores is shown in Chart 1.

TABLE 1.—Summary of Number of Tests Given.

Form	Date	Number of Tests	Number of Schools
Form 1	1928-1929	1,552	In medical schools
Form 2	1929-1930	5,916	" " "
Form 3	Feb. 1931	9,220	547 premedical schools
Form 4	Dec. 1931	9,173	537 " "
Form 5	Dec. 1932	9,398	546 " "
Form 6	Dec. 1933	9,976	636 " "
Form 7	Dec. 1934	10,569	615 " "
Form 8	Dec. 1935	10,671	624 " "

On January 24, 1935, we forwarded to the admission officers of the medical schools a report of the test ratings of the students tested December 6, 1935. In addition to the list of student ratings arranged according to schools, the report contained (1) an analysis of the different parts of the test; (2) an article, "The Medical Aptitude Test in Vocational Guidance," prepared by Dr. R. A. Brotemarkle of the University of Pennsylvania; (3) some suggestions for uses of the test results; (4) tables for interpreting the test results; and (5) an index of the schools in which the test was given.

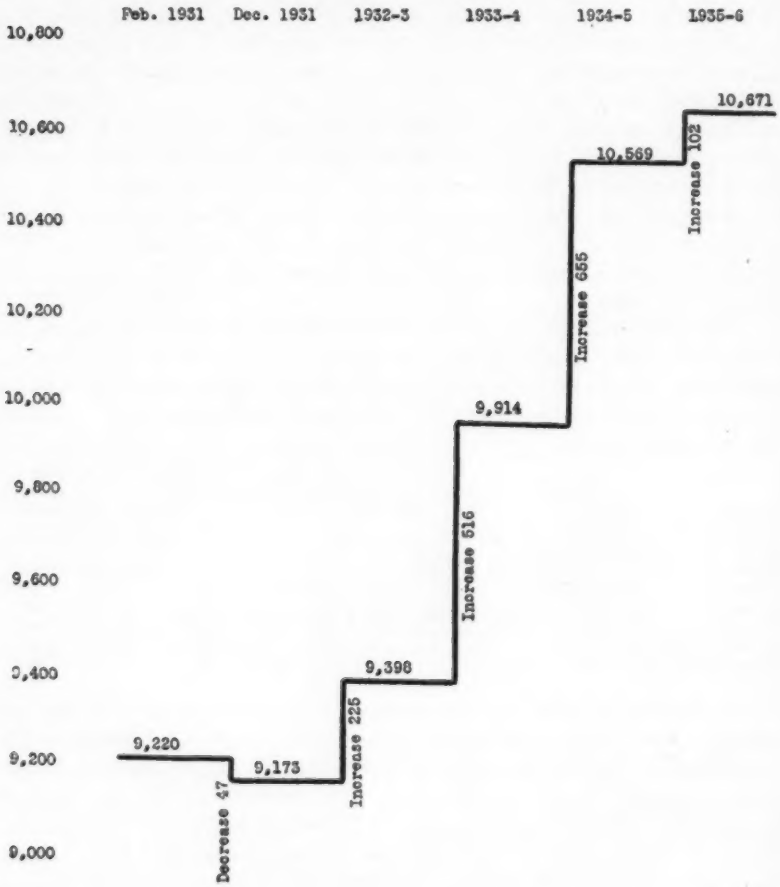
Since that date supplementary reports have been sent out covering additional tests.

INCREASE IN THE NUMBER OF STUDENTS TAKING THE TEST:

With the exception of the year 1931-1932, there has been a steady increase from year to year in the number of students tested. For each of the last two

years, more than ten thousand tests have been given. It will be noted from table 1 and chart 2 that more than 1,400 more tests were given during the past fiscal year than in 1931 (the first year the tests were given in the premedical schools).

CHART 2.—Number of Medical Aptitude Tests Given
(Feb. 1931—Aug. 1936)

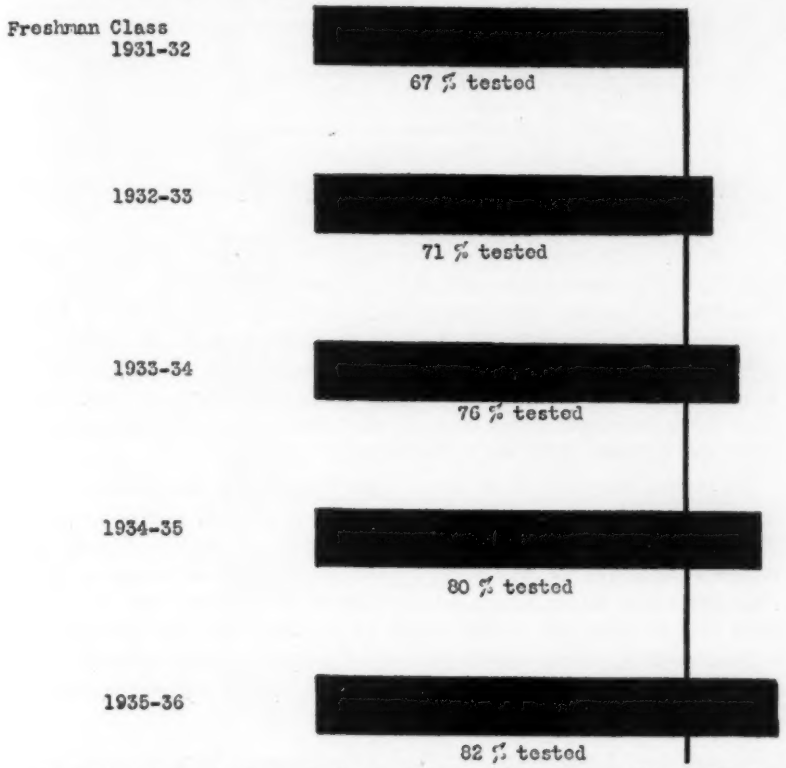


As would be expected, this has resulted in a steady increase in the percentage of the freshman classes having test scores. In two medical schools, 100 per cent of the 1935-1936 Freshman Class had been tested, and in 31 of the 76 schools more than 90 per cent of the class had test scores. This increased use of the test is illustrated in chart 3. While only 67 per cent of the 1931-1932 freshmen had taken the test, 82 per cent of the 1935-1936 freshman class had been tested.

PERCENTILE RANKING OF STUDENTS ADMITTED TO MEDICAL SCHOOL (FALL 1935) COMPARED WITH THE ENTIRE GROUP OF APPLICANTS TESTED.

A comparison of the students admitted to medical school in 1935 with the

CHART 3.—Percentage of Freshman Classes having Aptitude Test Scores.



entire group who took the aptitude test is interesting. The median of all those admitted had a percentile rank of 61 as compared with a percentile of 50 for all those tested. This places the average student admitted 11 percentile points

TABLE 2.—Comparison of Aptitude Test Scores of Students Admitted (Fall 1935) with Those of Total Group of Applicants Tested.

	All Applicants	Students Admitted
Highest 10 per cent made score above	199	208
Highest quarter made score above	179	187
Median score was	154	164
Lowest quarter made score below	126	137
Lowest 10 per cent made score below	101	115

above the average of all those tested, showing a marked tendency for the better applicants to be admitted. A comparison of students admitted with the entire group of applicants tested is given in table 2.

Table 3 shows percentages of admissions from various test score groups tested in 1934. These figures indicate clearly that students who make high scores on the test are admitted to medical school in decidedly larger numbers than those making low scores.

TABLE 3.—Percentage of Admissions for Various Test Score Groups (Fall, 1935)

Highest tenth of test scores	60%
Highest quarter of test scores	52%
Middle half of test scores	40%
Lowest quarter of test scores	27%
Lowest tenth of test scores	19%

PREDICTION OF MEDICAL SCHOOL GRADES (FRESHMEN, 1935-1936) BY APTITUDE TEST SCORES:

Chart 4 shows how accurately the test scores predicted success in the first year of medical school work. The 3,324 students with aptitude test scores who completed the freshman year were divided into ten equal groups on the basis of their scores on the aptitude test. Each bar in Chart 4 shows the percentage of failures in one-tenth of the group, and the average grade of students in that tenth. It is to be noted that the average grade earned declines rather evenly from the highest tenth of test scores to the lowest tenth, while the percentages of failures increases as the test scores decrease.

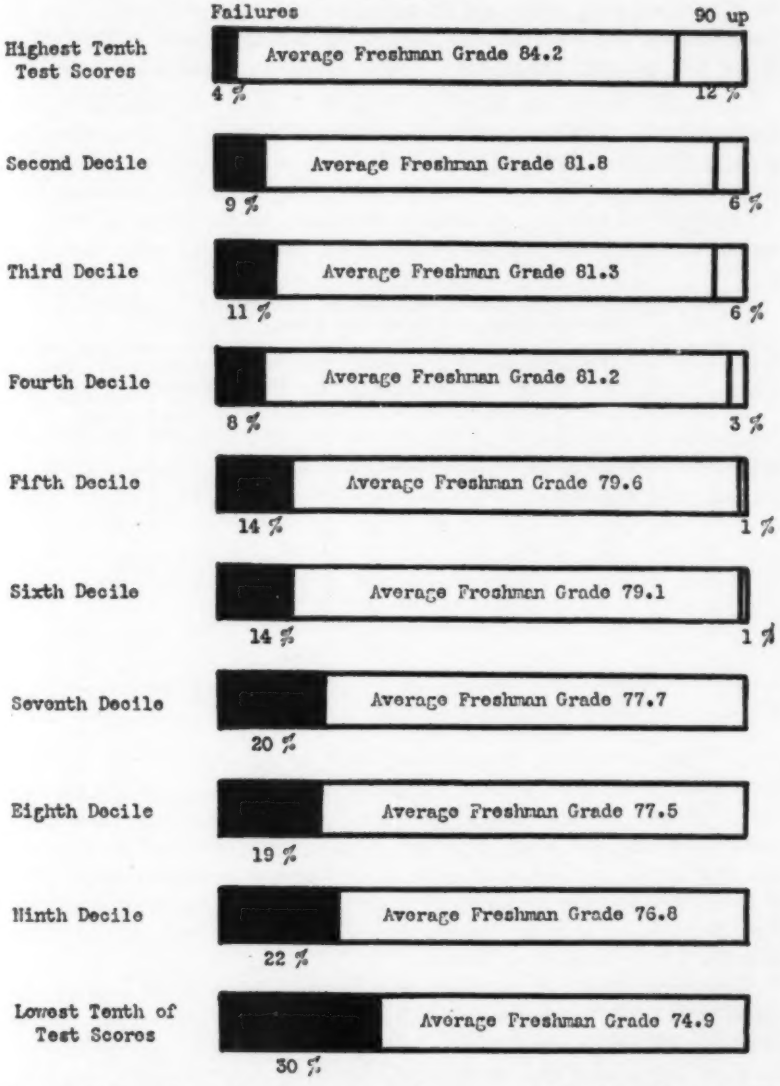
In the highest tenth of test scores, more than 50 per cent averaged 85 and above for the first year in medical school, with 12 per cent making averages of 90 or higher. In the lower half of the group less than 1 per cent made averages as high as 90, and in the lowest three-tenths none achieved an average of 90. In the lowest tenth, 30 per cent failed the work of the first year, and 26 per cent made averages below 80. In this lowest group, then, more than one-half either failed outright or barely passed with low grades or failures in some courses. In the high tenth, on the other hand, only 16 per cent averaged below 80, and more than 50 per cent made averages of 85 and above.

COMPARISON OF ACHIEVEMENT IN FIRST YEAR MEDICAL SCHOOL OF STUDENTS HAVING TAKEN THE TEST WITH THOSE ADMITTED WITHOUT TEST SCORES:

Ten schools, in which 541 students had taken the test and 181 had not taken the test, were selected for study. These particular schools were chosen because they admitted a large percentage of students without test scores. It was desired to have a large group without test scores to compare with those who had been tested. A slightly larger percentage of students in the tested than in the untested group made outstanding records as indicated by 29 per cent averaging above 85 for the first year in the tested as compared with 21 per cent in the untested group. The percentage of failures among those who had taken the test was 12.0 as compared with 19.0 in the untested group. Moreover, only 8 per cent of the tested group, but 14 per cent of those without test scores withdrew before the close of the year. In the tested group, a total of 20

per cent failed or withdrew during the year, while in the untested group 33 per cent were eliminated in this way. These figures show clearly that there

CHART 4.—Medical School Performance at Various Test Score Levels. Freshmen, 1935-1936



is a decided tendency for the poorer applicants to avoid taking the test. Untested students are more likely to fail or withdraw, and less likely to do outstanding work than are students who have taken the test.

Study of Separate Parts of the Test and of Individual Items with a View to Improving the Test in the Future.

A number of analytical studies of parts of the test and of individual items have been made with the view to improving future forms of the aptitude test by eliminating weak points and strengthening and developing strong ones. In these analyses, 600 cases tested by Form 6, ten freshmen classes tested by Form 7, and 600 applicants taking Form 8 were tabulated and studied in detail.

Study of Parts and Items of Form 6: A study was made of the predictive value of the separate parts and individual items of Form 6, which was given in December, 1933. This particular form was selected for study because sufficient time had elapsed for the applicants taking Form 6 to have completed the work of the first year of the medical school. In the spring of 1936, the records of 600 students who had completed the freshman year were selected for

Table 4.—Percentages of Outstanding Records, Failures and Withdrawals in Freshman Classes in Ten Medical Schools (1935-1936).

School	Students Having Test Scores				Students Without Test Scores			
	% Av. 85 or above	% Failed	% With-drew	Total % Elimi-nated	% Av. 85 or above	% Failed	% With-drew	Total % Elimi-nated
1	36	13	6	19	0	23	8	31
2	5	23	3	26	12	31	12	43
3	49	20	6	26	33	27	7	34
4	42	14	0	14	27	17	27	44
5	17	0	17	17	0	11	22	33
6	62	0	5	5	66	17	0	17
7	7	36	5	41	7	46	4	50
8	23	0	17	17	18	9	18	27
9	12	4	18	22	11	5	26	31
10	41	8	5	13	36	5	18	23
Av.	29	12	8	20	21	19	14	33

study. These cases were chosen from schools having approximately the same distribution of ability of students, not including either the highest nor the very lowest schools. Foreign students, or others with some handicap which might affect grades and test scores, were not included. The 600 cases were divided into three groups on the basis of grades in the first year of medical school work: in the high group those averaging 85 or above; in the middle group those averaging from 80 to 84; in the low group those making averages of 79 or below, including a large number of failures.

Tabulations from the test papers were made of scores on the separate tests and of total scores for the groups, as shown in table 5. From the fact that in every test the median score of those making high averages in medical school is distinctly higher than that of the group averaging from 80 to 84, while the latter, in turn, surpasses the group with low scholastic averages, it is evident that the test predicted success in medical school with a high degree of accuracy.

The predictive value of the test, as a whole, and of the separate tests com-

prising it is made even more evident by a consideration of the correlations between grades in the first year in medical school and scores on the aptitude test. The correlation between scores on the aptitude test and freshman grades is .66, a distinctly higher correlation than is ordinarily obtained between achievement

TABLE 5.—Median Scores on Form 6 of the Aptitude Test of 600 Students Divided into High, Middle, and Low Groups on the Basis of Freshman Medical Grades

Test	High Group (Av. 85 and above)	Middle Group (Av. 80-84)	Low Group (Av. 79 and below)
1	35.5	30.7	25.0
2	22.3	20.3	17.5
3	13.3	10.0	7.7
4	28.3	24.7	18.7
5	93.7	83.5	70.3
6	20.4	16.7	11.7
Total Score	204.3	178.2	151.1

in school and intelligence or aptitude tests. For example, even a good intelligence test seldom correlates higher than about .50 with college grades. The medical aptitude test thus predicted medical school achievement very satisfactorily indeed.

TABLE 6.—Correlations Between Freshman Grades of 600 Students and Their Scores on the Separate Tests and the Total Score on Form 6 of the Medical Aptitude Test

Test	No. of Points in Test	Title of Test	Correlation with First Year Grades
1	50	Comprehension and Retention	.51
2	25	Visual Memory	.33
3	25	Memory for Content	.39
4	40 (20×2)	Logical Reasoning	.36
5	105	Scientific Vocabulary	.51
6	30 (10×3)	Understanding of Printed Material	.49
Total Score	275		.66

The relative value of the separate tests in Form 6 is shown in table 6. The higher the correlation with freshman grades, the better the predictive value of the test. From table 6 it is evident that test 1 (Comprehension and Retention), test 5 (Scientific Vocabulary) and test 6 (Understanding of Printed Material) are the best tests, and are of about equal merit, as indicated by correlations of .51, .51 and .49, respectively.

It is interesting to note what abilities are actually probed by these most effective tests, and the relation of these abilities to the work in medical school.

Test 1 (Comprehension and Retention) consists of questions about a passage studied for fifteen minutes at the beginning of the testing period. Test 6 (Understanding of Printed Material) involves answering ten rather difficult questions by reference to a passage which contains the answers. The great similarity of the processes involved in these tests to those in studying and being tested in medical school is obvious. Test 5 (Scientific Vocabulary) tests mental alertness as evidenced by acquisition of familiarity with and understanding of terms in use in premedical subjects. Naturally, those most alert before reaching medical school continue so in medical school.

Tests 2, 3 and 4, all short tests involving 25, 25 and 20 questions, respectively, are less successful than the tests just discussed. One possible explanation is the fact that they are so short, as obviously it is more difficult for a test of only a few items to predict accurately the entire record of the first year in medical school than for a longer and more comprehensive test to accomplish the same result. The excellent predictive value of Test 6, consisting of only ten items, is all the more remarkable for this reason.

TABLE 7.—Difficulty of Individual Items of Form 6 of the Aptitude Test (600 Cases)

Test	Percent of Cases Missing		
	Easiest Item	Hardest Item	Median
1	1	63	20
2	7	49	28
3	14	75	30
4	2	54	20
5	2	74	21
6	16	80	56

From this study it would seem wise in constructing future forms of the medical aptitude test to expand tests similar to 1, 5 and 6, as they are shown to be the most valuable of those in Form 6.

Tabulations were made of the number in the high, middle and low groups omitting or failing each item of Form 6. The difficulty of the individual items in each of the separate tests is summarized in table 7 showing the percentage of the 600 missing the easiest item, the percentage missing the hardest item, and the median percentage wrong for all the items in the test. By "easiest item" is meant the item missed by the fewest number of students; the question missed by the greatest number is termed the "hardest item."

This table shows tests 1, 4 and 5 to be the easiest, with a low median percentage of wrong or omitted questions. Tests 1 and 5 were the most successful in the entire aptitude test. Almost equally successful in differentiating good from poor students, however, was test 6, which is shown in table 7 to be by far the most difficult, with a median percentage of misses of 56. One explanation of the extreme difficulty of test 6 lies in the position of the test. As it is the last one, applicants who work slowly do not have sufficient time to complete it, and

it is thus an additive test of the student's speed and endurance as well as of his knowledge.

From the tabulations of the number omitting and missing each question, the "selective value" of each item was calculated. This was done by taking the ratio of the number in the high group missing the item to the number in the low group missing it. For example, one particular question was missed by 18 of the 200 comprising the high group and by 90 of the 200 in the low group. The high/low (H/L) ratio of 18/90, or .20, gives a numerical representative of the "selective value" of the item. The smaller the decimal fraction, the higher the selective value. A slightly easier item was missed by only one student in the high group but by 42 in the low group, giving a "selective value" of .02. On the other hand, a few questions discriminated very poorly indeed. One, for example, was missed by 125 students in the high group and likewise by 125 students in the low group, giving a selective value of 1.00, which actually indicates no discrimination at all. Another bad question had a H/L ratio of 1.03, being missed by 97 in the high group and only 94 in the low group.

This study of the selective value of individual items, of course, applies directly only to the particular item of this test, but it throws light on the types of questions which are most effective. It likewise points out weaknesses in the questions which have poor selective value. This information should enable us to construct better questions for future forms of the test, and to avoid in the future a number of weaknesses in this one.

TABLE 8.—Difficulty of Individual Items of Form 8 of the Aptitude Test (600 Cases)

Test	Percent of Cases Missing		
	Easiest Item	Hardest Item	Median
1	1	67	20
2	4	76	30
3	1	62	13
4	4	63	24
5	6	88	52

STUDY OF PARTS AND ITEMS OF FORM 8:

An analysis similar to that of Form 6 was made of Form 8, the latest aptitude test. Since those tested by Form 8 have only been admitted to medical school this fall, no achievement records were available for this group. Total score on the aptitude test was thus the best obtainable criterion against which to check the desirability of separate parts of the test and of individual items. Six hundred papers were selected and divided into three groups on the basis of total score on the test. From the papers the errors on the separate questions were tabulated. A summary of the difficulty of individual items is given in Table 8. It is evident that Form 8 is very similar to Form 6 in difficulty of items and in difficulty of the various tests. In Form 8, as in Form 6, the last test (Understanding of Printed Material) is the most difficult.

The selective value of each of the separate questions in Form 8 was studied

just as in Form 6 in order to throw light on the nature of individual questions composing the test. This time a question was considered valuable if the wrong answers were given by those making low total scores on the test, and the correct answers by those making high scores.

Another phase of the analysis has concerned the relationship among the various parts of Form 8 of the aptitude test and the relation of each part to the total score. Other things being equal, it would be desirable for each part of the test to measure a different aspect of ability required for success in medical school. If two tests have a very high correlation with each other, they are measuring the same thing—and two measures of exactly the same ability would involve an unnecessary duplication of effort. On the other hand, each test should have a high correlation with the total score—the criterion in this instance. Test 1 (General Information), test 2 (Scientific Vocabulary), and test 5 (Understanding of Printed Material) are most closely related to the total score, with correlations, respectively, of .80, .85 and .78. These are also the largest and most significant parts of the test.

No very high intercorrelations are found between the separate parts of the test, showing that no two parts are measuring exactly the same aspects of ability. The highest intercorrelation is found between test 1 (General Information) and test 2 (Scientific Vocabulary), probably, because each is, in a sense, an extension of the other—one testing general information not acquired specifically in required premedical subjects, the other confined to information from formal course work. Since they supplement each other in this way, the fairly close relation between the two appears rather an asset than a liability. Test 3 (Spelling) and test 4 (Logical Reasoning) are least related to other tests, and, consequently, are testing qualities least measured by other parts of the test. From this standpoint they are valuable portions of the test, but in determining the desirability of a test the most important factor to consider is its ability to predict success in medical school.

TABLE 9.—Intercorrelations of the Separate Tests and Total Score on Form 8 of the Aptitude Test (600 Cases)

		Test 2	Test 3	Test 4	Test 5	Total Score
Test 1	General Information	.61	.40	.51	.58	.80
Test 2	Scientific Vocabulary		.58	.41	.48	.85
Test 3	Spelling			.24	.38	.63
Test 4	Logical Reasoning				.38	.68
Test 5	Understanding of Printed Material					.78

Since those taking Form 8 of the test have not yet had any medical school work, an analysis was made of corresponding tests (Spelling and Logical Reasoning) in Form 7. The records of all the students completing the first year work in ten medical schools were analyzed. This study showed the Spelling and Logical Reasoning tests to have slightly less predictive value than other parts of the test. Of the two, the Logical Reasoning test was superior.

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The Atlanta Meeting

The forty-seventh annual meeting of the Association of American Medical Colleges, held in Atlanta, Georgia, October 26-28, 1936, was outstanding for many reasons. The attendance and representation of member colleges was most gratifying. The program was received with more than the usual acclaim. Interest in the papers presented was of the highest degree and sustained from beginning to end. Many interrelated and correlating topics were discussed, beginning with the liberal education of the student who intends to study medicine and ending with his licensure as a practitioner of medicine. It is impossible to single out any one paper as having the greatest value because every paper was of that kind. However, it may be said that the two papers dealing with the continued education of the student during his internship, one presented by the dean of a medical school, the other by a hospital director, marked a new era in cooperation between the medical schools and hospitals and a distinct forward step in medical education. Doubtless, further consideration of this topic, on the basis of the statements made by the authors of these two papers will eventually—and in the not too distant future—lead to the development of a program which will convert the intern year into an educational year of distinction—a real fifth year in medicine, under the direction of the medical schools in cooperation of the hospitals.

The four papers dealing with the integration of the medical curriculum represented definitely the present trends in medical teaching and education. They gave the death blow to so-called departmental solidarity and emphasized the need and the importance of correlated teaching between all the departments in the medical school. This Association has always insisted on and stressed the need for correlation and its position has been justified fully by the results of such procedures as set forth in these papers.

A notable forward step was the adoption of a new curriculum of study, one in which neither hours nor percentages are given but a definite statement is made as to the purposes of a medical education, its objective, and an outline of subjects which it is believed are essential for inclusion in a course of medical study. It is left entirely to the medical school to arrange a curriculum, based on this outline, in accordance with its facilities, environment and personnel—the sole objective being "to provide the student with a sound foundation in the fundamentals of medicine on which he can build in the future in general or special practice or in scientific investigation. He should have acquired such habits of mind and thought that in addition to profiting by his professional experience, he will continue to educate himself throughout his life. By the end of undergraduate courses, the student should have matured sufficiently to assume the responsible duties of his profession."

Thus, there is removed from the so-called "requirements" the last vestige of what might be regarded as "rigidity." However, there is imposed on medical educators a larger responsibility, more supervision of the student's activities, a more careful evaluation of results of procedures, more individualization in the handling of students, less "class as a whole" instruction. In fact, the success of the new plan depends entirely on how well the medical schools will fit it into their teaching program.

Furthermore, the Association took another forward step in its program of cooperation by setting up the machinery needed for bringing together all organi-

zations, institutions and groups which have an interest in medical education and the adequate preparation of individuals for the practice of medicine. This work is not new with the Association. For many years it has been actively engaged in establishing contacts with such groups, and with good result. The present movement is merely an extension of these activities in a larger field and it is confidently expected that the returns will be larger and productive of greater good to a greater number of persons.

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Officers for 1936-1937

When the Association met in Atlanta in 1896, Dr. William Osler was its president. By a coincidence, another Canadian, Dr. E. Stanley Ryerson, associate dean of the Faculty of Medicine of the University of Toronto, assumed the presidency in Atlanta in 1936. He is the second representative of a Canadian member college to occupy that position. Dr. Chas. F. Martin, then dean of the Faculty of Medicine of McGill University, having served as president of the Association in 1926-1927, ten years ago.

By another coincidence, a member of the faculty and its dean of Johns Hopkins University School of Medicine, Dr. Alan M. Chesney, was elevated to the position of president-elect at the meeting. Dr. Osler was at the time of his presidency professor of medicine in the same school.

Dr. Loren R. Chandler, dean of Stanford University School of Medicine in San Francisco, was elected vice-president. Dr. Fred C. Zapffe and Dr. A. C. Bachmeyer were re-elected secretary and treasurer, respectively. Dr. C. W. M. Poynter, dean of the College of Medicine of the University of Nebraska, was re-elected and Dr. Russell H. Oppenheimer, dean of Emory University School of Medicine, elected to membership on the Executive Council.

The 1937 annual meeting will be held in San Francisco, California, October 25, 26 and 27.

The Journal in Its New Form

With this issue, the JOURNAL takes on larger size. Aside from the fact that its appearance will be improved considerably, the new size was deemed necessary because of the call of universities which order reprints for this size to conform with the size of reprints received from other publications and thus permit of uniform binding.

The JOURNAL has steadily taken a more important place in the field of educational publications. It is the only publication devoted entirely to medical education and teaching. It is the property of all medical teachers by reason of the membership of their respective colleges in the Association of American Medical Colleges. It is gratifying to note that this attitude is being taken by a larger number of teachers with the passing of time. More papers on teaching and education are being submitted for publication and it is not unlikely that soon the JOURNAL will need to increase its bulk or appear monthly instead of bimonthly. It should be the forum for discussion of any topic related to medical education and teaching. The large number of references to the JOURNAL appearing in other publications is indicative of a larger reader group and of the value of the papers published. Hence, it should receive the active support of every member of every faculty of the member colleges of the Association.

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New Members

At the forty-seventh annual meeting of the Association, the following medical colleges were elected to membership: University of Southern California School of Medicine, Los Angeles; University of Alberta Faculty of Medicine, Edmonton, Canada; University of Western Ontario Faculty of Medicine, London, Canada, and Queen's University Faculty of Medicine, Kingston, Canada. Thus, the membership of Canadian medical schools was increased by 100 per cent—and the application of one other Canadian school, Dalhousie University Faculty of Medi-

cine, has been received. Education is not concerned with geographic divisions. It is world wide and is the one potent factor in bringing about understanding of mutual problems and their best solution.

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Intern Placement Bureau

The Intern Placement Bureau is now fully organized and ready to give service. The membership of the committee appointed by the three hospital associations to cooperate with this Association in the conduct of this Bureau have agreed on the blanks to be used, and each hospital association has approved of the report of its committee on internships. The blanks have been printed and are ready for distribution. Blank No. 1 is the blank to be filled in by the hospital which wishes to avail itself of the services of the Bureau. Blank No. 2 is to be filled in by the student who is applying for an internship through the Bureau and by the dean of his college. The Bureau will try to serve as an intermediary in bringing together the hospital and the student. Thus far, there is every reason to believe that the Bureau will serve a great need in a wholly acceptable way.

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Williams McKim Marriott

After a long period of illness, Dr. W. McKim Marriott, dean and professor of research medicine in the University of California Medical School, died November 11 of pulmonary embolism. Dr. Marriott was born in Baltimore in 1885; received his B.S. degree in 1904 from the University of North Carolina and the M.D. degree from Cornell University Medical College in 1910. He was assistant in chemistry at North Carolina, taught at Cornell and Johns Hopkins, and later became dean and professor of pediatrics in Washington University School of Medicine, leaving there to accept the deanship at California in June, 1936.

At one time, Dr. Marriott was a member of the Executive Council of the Association of American Medical Colleges and also member of various committees because of his keen interest in medical education. Illness prevented his attendance at the 1936 annual meeting of the Association.

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The Unhappy Pre-medic

The lot of the young man preparing today to enter a medical school is not a very happy one. He learns that about half of each year's crop of applicants for admission to medical schools is blighted by the frost of deans and admission committees. He is subjected to medical aptitude tests and told that much depends on his ability to get a satisfactory percentile rating. He is forced to take long laboratory courses in chemistry, physics and biology, and these often conflict with his desire to make the football or baseball team, and he runs the risk of being classified with the proverbial "greasy grind" through his efforts to make good as a student and so to impress his teachers that they will recommend him highly to some medical school.

Then come the pangs of application for admission to a medical school. He is told not to put all his eggs into one basket and to apply to two or three or more schools. He does so, and then, perhaps, he receives an acceptance first from the school he least wants to attend and with it a demand within a specified time for a deposit of $25 or $50. What shall he do then? Shall he consider a bird in the hand worth two in the bush, and therefore, put up his deposit, or refuse the offer and hope for an acceptance later from his first choice, or shall he put up his deposit and if accepted later by his first choice, say good bye to his deposit? A difficult decision to make for many of these perplexed premedical students, adding further to their worries.

I, therefore, propose a plan which I think would help these unfortunates. In the first place, let me state I consider it eminently proper for a dean of a medical school to tell an applicant that he will surely be admitted later even if the boy be still in high school, provided the

dean is able so early to reach such a decision. I suggest, however, that a date be set, suppose we say March first, before which date no deposit shall be demanded of an applicant by any medical school. On or after March first, each school requiring a deposit, can then send out letters giving those selected for enrolment ten days in which to put up the deposit. This would give the applicants who might be accepted by two or more schools the opportunity of selecting the school they preferred.

In proposing that our medical schools enter into such an agreement, I am thinking not alone of the unhappy premedical student, I am concerned also with the question of the propriety of our trying, as we seem to be doing, to "rush" these boys. I use the term "rush" in the sense it is used by our Greek letter fraternities. In some colleges, interfraternity agreements have been made which forbid rushing during the first semester of the freshman year. We hear much of football coaches scouting after good prospects for their football teams. Let us avoid, so far as we can, any suspicion or accusation that we do anything of the sort.

The above has been written with the idea of presenting this proposition now for consideration by those having to do with the admission of students to our medical schools. At the next meeting of the Association of American Medical Colleges, I will bring the plan up for discussion.—WILLIAM PEPPER, Dean University of Pennsylvania School of Medicine.

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Conference on Education

Under the sponsorship of the American Council on Education, a meeting of representatives of medical, dental, legal and engineering education was held in Chicago, December 28, 1936.

Seventeen representatives were present. The chairman was Mr. Raymond Walters, president of the University of Cincinnati, and chairman of the Committee on Standards of the American Council on Education.

The discussion was wholly spontaneous and dwelt on the problems of education in general so far as they pertained to professional education. Although no action was taken, unanimous approval was given to holding a similar conference next year, which action was fully justified by the results of the discussions. If any single thought could be stressed, it was that the most essential movement looking to better understanding is through whole hearted cooperation between all educational groups representing not only the professions but also education in general.

If those who attended this conference will act as disseminators of the thoughts expressed there, the conviction that the conference was a most important one is fully justified. In that manner, and in no other, will the objectives which prompted calling the conference be attained.

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Indiana University School of Medicine

In the list of accomplishment of freshman students sent to the deans of the member colleges in this Association, an error was made in reporting on the accomplishment of the 1935-1936 class. There were reported by Indiana 85 students who entered from the College of Arts and Sciences of Indiana University. Of these, 71 had a clear record; 8 an encumbered record (2 of these having withdrawn) and 6 failed the course. Of students enrolled in the medical school who came from other universities there were 14; 12 had a clear record; 1 had a subject condition and 1 failed the course. Please make correction on the list.

College News

Yale Medical School

Dr. Cyril H. Long, director of the George S. Cox Medical Institute Hospital of the University of Pennsylvania, has been appointed professor and head of the department of physiological chemistry to succeed the late Lafayette B. Mendel.

Dr. Orville S. Rogers succeeds Dr. James C. Greenway, retired, as director of the department of university health.

The dean, Dr. Stanhope Bayne-Jones, has been appointed a member of the National Board of Medical Examiners, representing the Association of American Medical Colleges.

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University of Rochester School of Medicine

Drs. J. Albini Aubry, C. Arthur Elden and Wesley T. Pommerenke have been promoted to assistant professors of obstetrics and gynecology. Dr. Richard C. A. Jaenike has been promoted to assistant professor of medicine (psychiatry).

Dr. William S. McCann, professor of medicine, has been appointed by the Secretary of Labor a member of the Committee for the Prevention of Silicosis through Medical Control.

Dr. George W. Corner, professor of anatomy, was the Thomas Vicary lecturer of the Royal College of Surgeons of England in December. He is the first person outside of Great Britain to be appointed on this foundation.

Dr. George H. Whipple, dean and professor of pathology, has been elected to the Board of Scientific Directors of the Rockefeller Institute for Medical Research.

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Long Island College of Medicine

October 8, Sir Joseph Barcroft, professor of physiology, Cambridge University, inaugurated the Adam M. Miller Memorial Lectureship. His subject was "The Development of Foetal Respiratory Movements." This lectureship was established in honor of the late Adam M. Miller, who was professor of anatomy from 1914 to 1935 and Dean of the College from 1921 to 1935.

Students are to be trained in public health administration in cooperation with the Red Hook-Gowanus health center now under construction by the department of health. The plan calls for student participation in the actual work of the health center, with lectures, laboratory practice and field trips. It is expected that the center will be completed about May 1937.

Announcement is made of the promotion of Dr. Charles A. Weymuller to the position of Professor of Pediatrics. Prior to Dr. Weymuller's connection with the Long Island College of Medicine, he was associated with the Department of Pediatrics at the Cornell Medical College and at the Harvard Medical School.

The college also announces the following promotions and appointments: Dr. Lambert Krahulik, professor of clinical pediatrics; Dr. Stanley S. Lamm, Dr. Lewis A. Koch and Dr. David H. Shelling, assistant clinical professors of pediatrics.

A professorship of Child Health and Welfare, in the Division of Preventive Medicine and Community Health, has been established, and Dr. Carl H. Laws has been chosen as the first incumbent of this Chair.

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Ohio State University College of Medicine

Dr. Charles A. Doan, professor of medicine and medical research, has been appointed chairman of the department, which has been merged with the medical research department. Other additions to the faculty are: Drs. Carl V. Moore, assistant clinical professor of medicine

(hematology); George T. Harding III, assistant clinical professor of medicine (psychiatry); Oram C. Woolpert, assistant professor of medicine (infectious diseases); Louis J. Roth, assistant professor of clinical surgery; James K. W. Ferguson and Emil Bozler, Ph.D., assistant professors of physiology, and Lieut. Col. Frank H. Dixon, Medical Corps, U. S. Army, professor of military science.

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University of Virginia
Department of Medicine

Dr. Alfred Chanutin, professor of biochemistry, was awarded the Phipps and Bird Prize of $100 for his paper on "The effect of whole dried meat diets on renal insufficiency produced by partial nephrectomy" submitted in competition with papers selected by the State Academies of Science of North Carolina and South Carolina.

Dr. J. Edwin Wood participated in the symposium on diseases of the heart and kidney held at Duke University October 15-17. Dr. Wood spoke on the subject of "Recent advances in the study of rheumatic fever" and "The use of diuretics in edema."

Dr. C. C. Speidel presented a paper on "The Experimental Induction of Visible Structural Changes in Single Nerve Fibers in Living Tadpoles" in the symposium on excitation phenomena held last August at the Biological Laboratory in Cold Spring Harbor, New York.

The third postgraduate course in ophthalmology and otolaryngology was held October 27-30. Lectures and clinics were given by Dr. Gabriel Tucker, University of Pennsylvania; Dr. Perry Goldsmith, University of Toronto; Mr. E. B. Burchell, Eno Laboratory, New York City; Dr. John R. Richardson, Boston; Dr. Bernard Samuels, Cornell University; Dr. Webb W. Weeks, New York University and Bellevue Hospital Medical College; Dr. Harry S. Gradle, Northwestern University; Dr. James W. White, New York University; and Dr. H. S. Hedges, University of Virginia.

Dr. William R. Houston, of Austin, Texas, spoke at the fall meeting of Alpha Omega Alpha, October 29, on "The History of Medical Thought."

The eighteenth Post-Graduate Medical Clinic was held at the University Hospital November 6. Forty-five physicians registered for the course.

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University of Manitoba
Faculty of Medicine

I. Maclaren Thompson, professor of anatomy and chairman of the Division of Anatomy, in the University of California Medical School, has accepted a position as professor of anatomy in the University of Manitoba. He will assume his new duties at the beginning of the year. Professor Thompson is a native of Newfoundland, was educated in Edinburgh and taught Anatomy in McGill University before going to California.

A postgraduate course on clinical endocrinology was begun at the college November 18, 1936, and will close March 10, 1937. The course is limited to thirty students and is intended to embrace the application of endocrinology to medicine in general.

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University of Minnesota
Medical School

Dr. Owen H. Wangensteen, professor and head of the department of surgery, and Dr. Alton Oschner, professor and head of the department of surgery at Tulane University, will edit, with Dr. Alfred Blalock and Dr. William F. Rienhoff, Jr., as associate editors, a new surgical journal beginning January first, entitled "Surgery, a Monthly Journal Devoted to the Art and Science of Surgery." This journal is not to be the official organ of any group or organization, but will essay to give early publication to new and original material written up in concise form. It is to be a well balanced clinical and experimental journal of surgery, with a representation in its editorial board and committee on publications of representatives from the broad field of general surgery and its specialties, as well as the preclinical medical sciences.

Dr. Cecil J. Watson has been appointed associate professor of medicine.

University of Georgia School of Medicine

Construction on a new laboratory building is well under way. This building will house the departments of biochemistry, physiology and pharmacology, and contain an auditorium with a seating capacity of 350. The ground floor of the old medical building, which formerly housed the outpatient department (now located in the new wing of the University Hospital), has been renovated to house the department of pathology formerly located on the third floor. The entire third floor has been given over to the department of anatomy—gross and microscopic. The new building is to cost $70,000, not including equipment.

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New York Medical College and Flower Hospital

NEW APPOINTMENTS: Robert S. Bickley and Henry Dawson Furniss, clinical professors of surgery; T. Drysdale Buchanan, clinical professor of anesthesia; Robin Hood, M.D., clinical professor of proctology; Leon S. Loizeaux, M.D., F.A.C.S., clinical professor of gynecology and obstetrics.; Thomas Hodge McGavack, associate professor of medicine; Edward J. McCabe and F. Montgomery Smith, associate clinical professors of surgery; Louis B. Dotti, assistant professor of physiology and biochemistry; Harold E. Clark and Charles J. Goeller, assistant clinical professors of surgery; Edmund H. Hubner, assistant clinical professor of gynecology and obstetrics; Sexton C. Roane, assistant clinical professor of surgery; G. Allen Robinson, assistant clinical professor of radiology; Paul M. Wood, assistant clinical professor of anesthesia; Chrisman G. Scherf, lecturer on hospital administration.

Dr. McGavack was formerly assistant professor of homeopathic medicine at the University of California Medical School.

Dr. Dotti was previously instructor in physiology at Columbia University College of Physicians and Surgeons.

The following bequests have recently been received:

Through the will of the late Commodore Elias Cornelius Benedict, $50,000. From the estate of the late George Leask, $50,000.

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University of Pennsylvania School of Medicine

Dr. Eldridge L. Eliason, professor of clinical surgery, has been appointed John Barton Rhea professor of surgery, to succeed the late Dr. Charles H. Frazier.

Dr. Isidor S. Ravdin, J. William White professor of surgical research and professor of surgical research in the Graduate School of Medicine, has been appointed to the newly established George L. and Emily McMichael Harrison professorship of surgery.

An estate estimated at more than $200,000 has been bequeathed to the University of Pennsylvania by the late Frances T. Kinsey to support and develop the Gastro-Intestinal Clinic at the University Hospital under the direction of Dr. Thomas Grier Miller, or for such other activities in this field as he may desire. After Dr. Miller severs his connection with the university hospital the income is to be used for such similar activities as the professor of medicine may desire. The fund will be known as "The Kinsey-Thomas Foundation for the Study and Treatment of Diseases of the Digestive System." It is to be a memorial to two sisters and a brother-in-law of Miss Kinsey.

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State University of Iowa College of Medicine

The Committee on Scientific Research of the American Medical Association has made available a grant of $500 to the department of pathology. The sum will be used to continue the research study on blood clotting on which Drs. H. P. Smith, E. D. Warner and K. M. Brinkhous have been working.

The Iowa State Board of Education appointed Dr. Frank R. Peterson to succeed the late Dr. Howard L. Beye as professor and head of the department of surgery.

Emory University

The centennial celebration of the founding of Emory was held December 12, 1936. One day was given over to the discussion of medicine.

Dr. Russell H. Oppenheimer, dean of the school of medicine, was elected to membership on the Executive Council of the Association of American Medical Colleges.

Dr. Warren B. Matthews, formerly instructor in pathology, Northwestern University Medical School, has been appointed associate professor of pathology.

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Meharry Medical College

Medical students at Meharry Medical College have again made honor grades in the National Board examinations in the June examination.

Five students took Part I, and all of them passed with grades ranging from 85 to 91. Of the six hundred (600) who took this examination, a junior medical student at Meharry, made the highest grade in physiology, an average of 98. He tied for fourth place on the honor roll.

Three of Meharry's graduates took Part II. One of these tied for the highest grade in surgery, with an average of 94. He also stood first on the honor roll of all contestants. Another graduate made the highest average of all contestants in pediatrics, making a grade of 93.

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University of Oklahoma School of Medicine

Dr. Theodore G. Wails has been appointed professor of otology, rhinology and laryngology to succeed the late Dr. H. Coulter Todd who died June 25, 1936.

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University of Toronto Faculty of Medicine

The eleventh Donald C. Balfour Lecture in Surgery was delivered October 16 by Sir James Walton, Surgeon to the London Hospital. The subject of the lecture was "The Treatment of Peptic Ulcer."

The associate dean, Dr. E. Stanley Ryerson, has assumed the presidency of the association of American Medical Colleges and the chairmanship of its Executive Council.

The following awards have been made by the Senate of the University:

George Armstrong Peters Prize in Surgical Science: Clifford Harold Watson, M.B.

Starr Gold Medal: William Leslie Donohue, M.A., M.D.

Faulkner Medal in Psychiatry: George Edgar Hobbs, B.A., M.D.

Toronto Women's League of the United Synagogue: George Alan Lane.

Baptie Scholarship: John Garvey Mickler.

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Western Reserve University School of Medicine

Beginning with the class entering in 1937, the formal requirement of foreign language credits as a prerequisite for admission will be discontinued; these will be left to the judgment of the undergraduate faculties. Dean Torald Sollmann commented on the new regulation as follows:

This step is taken in the interest of simplification of the demands which the medical schools make on undergraduate training, and in consonance with the fundamental policy of not hampering the programs of the undergraduate colleges in such cultural studies as are not immediately essential to the medical course. It should not be interpreted as minimizing the value of language study in general culture. Professionally, some familiarity with the classical languages facilitates the correct understanding of medical terms, and a reading knowledge of any of the foreign languages in which medical treatises are written widens the horizon of the student and physician. However, experience has shown that they are not essential. Indeed, the formal language courses do not insure such intimate familiarity with these languages

as to make them of much real use as tools in the study or practice of medicine; and the extension of journals and abstract journals in English makes their professional use less important than was formerly the case except for those who devote themselves to research.

Dr. Wilbert H. McGaw has received a grant from the Committee on Scientific Research of the American Medical Association to develop an auscultatory method of diagnosing and following the progress of bone fractures and other bone disorders.

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University of Western Ontario Medical School

APPOINTMENTS: Mr. A. J. Grace, B.A. (Sask.), M.A., B.M., B.Ch. (Oxon.), F.R.C.S. (Eng.), instructor and Fellow in surgery. Mr. Grace began his medical education at the University of Saskatchewan whence he proceeded to Oxford as a Rhodes Scholar in 1926. At Oxford he had the distinction of obtaining a first in the final examinations in the honor school of physiology. After serving for two years as demonstrator of physiology at the Guy's Hospital Medical School, he held house appointments at Guy's Hospital for 18 months. He then joined the resident staff of the Royal Victoria Hospital, Montreal, where he spent 15 months. Following 7 months as assitant surgeon at the Humber Clinic, Corner Brook, Newfoundland, Mr. Grace returned to England to take over the duties of resident surgical officer at the Radcliffe Infirmary and County Hospital, Oxford. In July 1936, he accepted the appointment of Surgical Registrar at Guy's Hospital, London, England, which post he relinquished to come to London, Canada.

G. W. Stavraky, M.D. (Odessa), M.D., C.M., M.Sc. (McGill) has been appointed lecturer in physiology in succession to Dr. J. K. W. Ferguson who has joined the staff of the Ohio State University at Columbus, Ohio. Dr. Stavraky, after graduating from the University of Odessa in Russia and after completing a surgical appointment of one year there, came to Canada in 1930. He engaged in research work with Professor B. P. Babkin in the Department of Physiology at McGill University and subsequently spent three years as Fellow in physiology, under Professor Wilder Penfield at the Neurological Institute, Montreal. Following that, he acted as instructor of physiology at McGill for one year.

G. W. Sumner, M.D. (West. Ont.) has been appointed instructor in pediatrics. Dr. Sumner has completed three years, postgraduate training in Montreal and Cleveland.

PROMOTIONS: Dr. G. H. Stevenson has been promoted from associate professor to professor of psychiatry; Dr. W. P. Tew, from associate professor to professor of obstetrics and gynecology; Dr. E. M. Watson from associate professor to professor of pathological chemistry; Dr. R. A. Waud from associate professor to professor of pharmacology; Dr. D. W. Crombie from instructor to assistant professor of medicine and Dr. P. M. Andrus from instructor to assistant professor of radiology.

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Louisiana State University School of Medicine

Dr. Raymond L. Gregory has been appointed assistant professor of medicine.

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Duke University School of Medicine

October 30, 1936, Dr. A. Graeme Mitchell, of the Children's Hospital, Cincinnati, Ohio, lectured at Duke Hospital on "The Various Phases of Endocrinology."

November 3rd, Dr. Sanders L. Christian, of the United States Public Health Service, Washington, D. C., gave a resume of the "History of the United States Public Health Service and Various Functions of Each Department."

November 7th, Dr. George W. McCoy, of the United States Public Health Service, Washington, D. C., gave a lecture on the "Recent Advances in Epidemiology."

Howard Medical School

Dr. Reginal Fitz, Wade professor of medicine, Boston University School of Medicine, and director of Evans Memorial Hospital, has been appointed lecturer in the history of medicine for three years.

Prize scholarships have been made available through gifts made recently by Mr. Edward S. Harkness and Dr. Daniel F. Jones. One or two will be awarded to persons entering the freshman class in 1937. Since the scholarships will be open to all students whatever their financial circumstances, the stipend will vary from $100 to $1,000, depending on the financial resources of the recipient. Holders of the scholarships who maintain, during their first year, a high honor record will continue to hold them throughout the medical school course.

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Jefferson Medical College

Dr. George P. Muller, formerly of clinical surgery in the School of Medicine and in the Graduate School of Medicine of the University of Pennsylvania, has been appointed professor of surgery to succeed the late Dr. Edward J. Klopp. He is a member of the Board of Regents and a Fellow of the American College of Surgeons, a member of the Philadelphia College of Physicians, and past President of the Philadelphia County Medical Society. Dr. Muller is surgeon to the Lankenau and Misericordia Hospitals in Philadelphia.

Robert P. Hooper has been elected President of the Board of Trustees of the Jefferson Medical College of Philadelphia. New members of the Board are Brandon Barringer and Franklin Spencer Edmonds.

Dr. Willis F. Manges, professor of roentgenology at Jefferson Medical College of Philadelphia, died on November 24, 1936, at the age of 59.

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University of Arkansas School of Medicine

Dr. Silas C. Fulmer, professor of medicine, has been appointed assistant dean in the medical school.

Saint Louis University School of Medicine

Dr. Albert E. Casey, formerly of The Rockefeller Institute and more recently associate professor of pathology at the University of Virginia, has been appointed head of the pathology department.

Dr. Wendell H. Griffith, of the department of biochemistry, has been granted a leave of absence. He will pursue the study of nutrition at Oxford University.

October 17, the first of a series of student seminars was held. These are sponsored by the local chapter of Alpha Omega Alpha.

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Johns Hopkins University School of Medicine

About $350,000 will be used in seeking a cure for infantile paralysis, under the will of the late Mrs. M. B. Graham, Washington, D. C.

The dean, Dr. Alan M. Chesney, has been elected president-elect of the Association of American Medical Colleges.

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Indiana University School of Medicine

The new medical building, now under construction on the Indiana University campus for the departments of anatomy and physiology (see cut elsewhere in this issue), will be completed for occupancy for summer session courses in June, 1937. The central portion of the building contains units used by both the anatomy and physiology departments. On the first two floors (basement and first floor) is a lecture room seating 200 students, with a lantern and moving picture equipment. On the second floor is the library with seating places for 48 students, with stack room off one side and seminar room off the other. On the third floor is a small lecture and demonstration room and a museum. The animal quarters are located on the fourth floor above the level of the roof of the main building.

The laboratory tables for gross anatomy, bed of table and the cover, which

folds over it when dissection is not under way, are of stainless steel. The covers close tightly so as to give a humidor effect.

A double heating system, steam and hot air, is being installed, the air being washed and thus partly conditioned, and making possible, at a later time, the installation of a cooling unit which will give complete air conditioning.

The wing to the left, three stories in height, houses the department of physiology offices and laboratories; the wing to the right, four stories in height, houses the department of anatomy office and laboratories—the whole unit contains about 800,000 cubic feet.

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University of Louisville
School of Medicine

Dr. John Walker Moore, dean and professor of medicine, received the University's 1936 Award of Merit. Among points mentioned in the citation were the following: "significant contribution through research on cardiovascular functions; establishment a decade ago of the student unit system of clinical instruction; effective and stimulating teaching." Doctor Moore has been associated with the University since 1915. He was made professor of medicine in 1923 and dean in 1928. He was graduated from the University of Pennsylvania School of Medicine in 1912.

During 1937, the School of Medicine will celebrate its one hundredth anniversary.

Dr. Charles Caldwell, who was graduated from the University of Pennsylvania in 1795, was the founder of the University of Louisville. The first class was graduated in 1838, when the degree of doctor of medicine was conferred upon twenty-four candidates.

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University of Chicago
Rush Medical College

The faculty recently voted to abolish the requirement of the fifth year for the M.D. degree, effective the 15th of December, 1936. This action has been approved by the university authorities. Certain additional provisions were made for students who have received the four year certificate since 1934 and who never received their degree because of illness, and for students who received the certificate in the past year who were either not under contract to a hospital or whose contract could be altered by the hospital concerned to permit them to receive their degree before completing their internships.

The college, which has had an active Fifth Year Committee, expects to maintain a list of hospitals and to continue to make suggestions to students in much the same way as before.

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University of Oregon
Medical School

Dr. Edwin E. Osgood has been placed at the head of the newly established division of experimental medicine. Dr. J. Guy Strohm has been made clinical professor of urology and acting head of the division of urology, and Dr. William K. Livingston has been appointed assistant professor of surgery.

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Tufts College
School of Medicine

"Pathfinders in American Medicine," the sixth in a series of annual pageants depicting medical history, was presented on November 13. This year's pageant presented characters from the time of Drs. John Morgan and Benjamin Rush to that of Drs. Reed and Gorgas, and included a portrayal of Maria Zakrzewska, founder of the New England Hospital for Women and Children. The various parts were written and played by students. Past presentations have been published in book form under the title, "One Hour of Medical History."

Four Charlton Fund Fellowships have been awarded this year for the second time at the medical school. The stipend of these fellowships varies from $1,200 to $1,500 for one year, and the recipients

devote their time to teaching and research. It is expected that these fellowships will be granted every year in the future.

Extensive building improvements have been made at the medical school. The amphitheatre has been converted into additional laboratories for research and demonstration for the department of bacteriology.

Promotions: Dr. James J. Hepburn, professor of surgery, to succeed Dr. Horace Binney, now professor emeritus of surgery; Dr. Benjamin Sachs, professor of ophthalmology, to succeed Dr. Edward K. Ellis, now professor emeritus of ophthalmology; Dr. James M. Baty and Dr. Francis C. McDonald, assistant professors of pediatrics; Dr. Arthur Berk, assistant professor of psychiatry; Dr. Otto J. Hermann, clinical professor of surgery; Dr. Harry H. Powers, assistant professor of biochemistry; Dr. Frederick W. Stetson, professor emeritus of medicine; Dr. Louis A. O. Goddu and Dr. Armin Klein, clinical professors of orthopedics; Dr. John D. Adams, assistant professor of orthopedics.

New appointments: Dr. John L. Jacobs, associate professor of bacteriology; Dr. William E. Browne and Dr. Archibald McK. Fraser, clinical professor of surgery; Dr. Andrew R. MacAusland and Dr. W. Russell MacAusland, clinical professors of orthopedics.

Dr. Frank Eugene Haskins, professor of pharmacology, died on May 23, 1936. He had been associated with the faculty since 1904. He was secretary to the faculty from 1914 to 1927.

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University of Rochester School of Medicine

The Rockefeller Foundation has made a grant of $10,000 for the investigation of filtrable viruses under the direction of Dr. George P. Berry, professor of bacteriology and associate professor of medicine, and one of $6,400 for the study of the biologic effects of heat by Dr. Stafford L. Warren, associate professor of medicine and radiology.

New York University College of Medicine

New appointments: Dr. Alfred Townsend Osgood, who resigned as professor of urology, was appointed professor emeritus of urology. Dr. Osgood had been associated with the College of Medicine since 1903, and since 1912 had been professor of urology. Dr. Donal Sheehan was appointed professor of anatomy and director of the anatomical laboratories; his appointment to be effective September 1, 1937. Dr. Sheehan succeeds Dr. Harold D. Senior who retired in September, 1936.

Promotions: Dr. James Burns Amberson, Jr., professor of clinical medicine; Dr. Milton Benjamin Rosenbluth, assistant professor of clinical medicine; Dr. Charles Gottlieb, assistant professor of radiology; Dr. Thomas Arthur Gonzales, associate professor of forensic medicine; Dr. Milton Helpern and Dr. Benjamin Morgan Vance, assistant professor of forensic medicine.

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Baylor University School of Medicine

Promotions: Dr. Christopher B. Carter, to be associate professor of applied anatomy and clinical surgery; Dr. James H. Black, to be professor of clinical medicine (allergy); Robert W. Lackey, Ph.D., to be associate professor of physiology; Dr. Walter W. Brandes, to be associate professor of pathology; Dr. Robert W. Short and Dr. J. Warner Duckett, to be assistant professors of clinical surgery; Dr. Oscar M. Marchman, to be associate professor of clinical otolaryngology.

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University of Alabama School of Medicine

Dr. William Groce Harrison, professor of medical history at Vanderbilt University School of Medicine, delivered a lecture on "Some Significant American Contributions to Medicine" on November 30. The lecture was sponsored by Alpha Epsilon Delta, honorary premedical fraternity.

Medical College of Virginia

The Secretary of the Interior, Honorable Harold L. Ickes, was the principal speaker at Founders' Day of the ninety-ninth session, December 1, 1936. At these exercises two P. W. A. aided projects, a new central power plant and tunnel system connecting the various units of the Hospital Division, and a laundry with sewing facilities were dedicated, and the cornerstone of the new clinic and laboratory building, also P. W. A. aided, was laid with Masonic ceremonies. Another P.W.A. aided project, a dormitory to house the hospital house staff and the senior medical class, will shortly go under construction.

Others who spoke on Founders' Day were: Governor George C. Peery of Virginia; Mayor J. Fulmer Bright of Richmond; Colonel Robert T. Barton, Jr., vice-chairman of the Board of Visitors of the college; Mr. G. A. Peple, Jr., consulting engineer, Mr. Coleman Baskervill, architect, and Dr. W. T. Sanger, president of the college, who presided. A considerable number of distinguished guests were present including representatives of the Federal and State Public Works Administration, State and City officials, college presidents, and other prominent citizens.

The present building program of the college of over a million dollars is being financed by grants from the Federal government of approximately $400,000; a gift to the institution of $300,000, and the sale of self-liquidating bonds of approximately $300,000.

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University of Texas School of Medicine

Dr. Percival A. Duff, formerly of Los Angeles, has been appointed assistant professor of pathology, and Dr. Truman J. Blocker, Jr. has been appointed associate professor of surgical pathology. Dr. Clarence S. Sykes has been promoted to the rank of associate professor of ophthalmology. Dr. Paul A. Woodward has resigned as associate professor of medicine and Dr. Loyd W. Sheckles, Jr. has been promoted to be assistant professor of medicine. At the opening session of the fall term October 1 an address was made by Dr. Seth M. Morris, professor of ophthalmology, who is the only member of the original faculty of the school who has remained in continuous service. Dr. Morris will retire at the end of this year.

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University of Vermont College of Medicine

Dr. Philip M. Stimson, professor of communicable diseases at the Cornell University Medical School, spoke December 4, 1936, on "Communicable Diseases" to members of the Osler Clinical Society, undergraduate medical organization at the University of Vermont. The lecture, one of the current series offered annually by the Osler Society for the benefit of all medical students, is also open to members of the medical profession in the state.

"Magic in Medicine" was discussed by Dr. Chas. F. Martin, formerly dean of the Faculty of Medicine of McGill University, December 8, 1936.

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University of Western Ontario Faculty of Medicine

Dr. Charles C. Macklin, professor of anatomy, attended the Fourth Federated International Congress of Anatomists at Milan, Italy, Sept. 2 to 8, 1936, and contributed a paper entitled "The perivascular interstitial tissue of the lungs as an air passage in the experimental production of massive collapse with pneumothorax" and also made a microscopic demonstration on the same subject.

At Durham, N. C., on April 11, 1936, Professor Macklin was chairman of a Round Table Conference held under the auspices of the American Association of Anatomists, Warren H. Lewis, President, at its 52nd session. This conference was on the subject of "Pulmonic Alveolar Epithelium" and was participated in by Drs. J. L. Bremer of Harvard University, Dwight M. Palmer of Ohio State University, William Bloom of the University of Chicago, Douglas M. Sprunt of Duke

University, and B. M. Fried of New York. A report appeared in the Journal of Thoracic Surgery of October, 1936, page 82.

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University of Oregon Medical School

The departments of anatomy and otolaryngology have received a grant of $400 from the American Academy of Ophthalmology and Otolaryngology to continue research on diseases of the sinuses under the direction of Olof Larsell, Ph.D., and Dr. Ralph A. Fenton.

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Boston University School of Medicine

Dr. Elliott P. Joslin was the speaker at a meeting of the Boston University Medical Society recently in the Evans Memorial Auditorium. Dr. Joslin's subject was "Recent Developments in the Treatment of Diabetes."

This was the second in a series of monthly meetings to be held by the recently formed Medical Society, which was inaugurated for the purpose of broadening the viewpoint of both medical students and physicians. Future meetings will be based on a wide variety of medical topics, of both immediate and future interest.

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Stanford University School of Medicine

Dr. William Dock was appointed professor of pathology. He received his B.S. from Washington University in 1920 and his M.D. from Rush Medical College in 1923. He served as medical house officer at the Peter Bent Brigham Hospital in Boston, was a graduate student in Vienna, and then resident in medicine at the Stanford University Hospital, San Francisco.

Since 1926 Dr. Dock has been a member of the department of medicine of the Stanford University School of Medicine. He has been active in research in the field of pathology and physiology of the heart, kidneys and diseases of the blood.

Associated with Dr. Dock will be Dr. David A. Wood, associate professor of pathology, and Drs. James B. McNaught and Alvin J. Cox, assistant professors of pathology.

The dean, Dr. Loren R. Chandler, has been elected vice-president of the Association of American Medical Colleges.

The fifty-fifth course of popular medical lectures are to be given at Lane Hall on alternate Friday evenings from January 8 to March 19, 1937, at 8 P. M. Listed are the following:

(1) Syphilis and Its Control.—Dr. Jacques P. Gray; (2) The County Hospital and the Public.—Dr. Benjamin W. Black. (3) Recent Advances in the Treatment of Tuberculosis.—Dr. William C. Voorsanger. (4) The Crippled Child—Dr. Frederic C. Bost. (5) Behind the Scenes of Pain Relievers in Dentistry.—Dr. Sanford M. Moose. (6) The Rising Death Rate from Heart Disease.—Dr. J. Marion Read.

All interested are cordially invited to attend.

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University of Kansas School of Medicine

A tuberculosis ward of forty-eight beds has been added to the hospital. This has been accomplished by remodeling one of the old units. This provides additional teaching material. There are thirty-five patients in the unit at the present time.

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George Washington University School of Medicine

Dr. Earl B. McKinley, dean and professor of bacteriology, will leave in January for the Orient to conduct research on leprosy under the auspices of the American Leprosy Foundation, formerly the Leonard Wood Memorial. Later, Dr. McKinley will gather material concerning the geographic distribution of disease for inclusion in a volume, to follow one on the geography of disease, entitled "A Cartography of Disease," now in preparation under a grant from the Carnegie Institution of Washington, D. C. Dr. McKinley will return to his duties in Washington in September, 1937.

General News

Ohio Resolution on Graduates of Foreign Medical Schools

At its recent business meeting, the Ohio State Medical Board adopted the following resolution relative to the educational requirements for graduates of medical schools in foreign countries who wish to take the Ohio examinations:

WHEREAS, The board finds it extremely difficult to obtain information to prove the equality in medical education at this time in foreign countries with that required in the United States, be it

Resolved, That in order to determine whether or not the diploma and license of graduates of medical institutions in foreign countries is of a standard approved by the board, in each instance a graduate from a foreign country seeking to enter the Ohio examinations—or, if licensed in another state, seeking reciprocity with Ohio—shall be required to submit a complete transcript of all work done prior to graduation; and in case difficulty is experienced in evaluation, the board shall require one year of internship in an approved hospital or one year of education in an approved medical school in the United States. Credentials of foreign applicants must be filed with the secretary at least six months prior to an examination.

The Ohio medical practice act also requires that a foreigner who desires a license must hold a certificate to practice medicine and surgery in the country from which he comes.

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Dr. Simon Flexner

Dr. Simon Flexner, director emeritus of the Rockefeller Institute for Medical Research, has been appointed Eastman visiting professor at Oxford University, Oxford, England, for the academic year 1937-1938. The Eastman professorship was founded by the late George Eastman of Rochester to provide for scholars in American universities to go to Oxford as visiting professors for terms of from one to five years.

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Mary Putnam Jacobi Fellowship

The Women's Medical Association of the City of New York offers the Mary Putnam Jacobi Fellowship, of $1000 for one year; available for postgraduate work in the medical sciences.

The fellowship is open to any woman graduate of an approved medical school. Each candidate must be endorsed by the head of the department in which her previous work has been done. The recipient of the fellowship must give full time to the study of her problem and this study should be made preferably abroad.

The recipient of the fellowship, if not resident in the United States, should make the study preferably in the United States.

Applications for 1937-1938 should be filed with the chairman of the committee, Dr. Annie S. Daniel, 321 East 15th St., New York City, on or before April 1, 1937, and must be accompanied by statements as to health, educational qualifications, and proposed problem for investigation.

A report for publication will be required at the completion of the fellowship.

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The Education of the Intern

The year of intern training in the hospital was in former years purely voluntary so far as the medical graduate was concerned. Today it is mandatory either by custom, or by the order of the Colleges of Medicine and the State Boards of Medical Registration. During his four years in medical college his education was didactic; in the hospital during the intern year it is practical and applied. In our better hospitals he receives no

or very meager financial remuneration. His reward must come with the opportunity which the hospital affords him, to apply his art and improve his skill at the bedside of the patient, and under the direction and teaching of the experienced practitioners of his profession. The hospitals owe a great deal to the intern for the year of service which he gives them. In return for his labor, and an increasingly intelligent and loyal service, they must be concerned with the extent and character of the medical education which the members of their medical staffs provide. As the hospitals are selective in the appointment of the intern so should they be diligent in providing the instructors and facilities for the continuing of his medical education. There is no less responsibility imposed upon the hospitals and their instructional staffs to give the intern as much for his time and effort during his service than was imposed upon his alma mater in preparing him for his profession. In the last analysis, the obligation of teaching the intern, both from a professional and hospital point of view, is the obligation of the members of the staff. But in all instances the administration may stand as the next friend of the interns and see to it that the good faith of his institution is maintained and that from a professional value at least, the intern has been adequately compensated by the quality of medical education which the hospital has offered him. The intern himself must be diligent, loyal and above all studious. If he is to receive the largest return for the year in his hospital he must subordinate many of his inclinations to the satisfactory performance of the work he has assigned him. The hospitals that have difficulty in securing desirable interns are generally those who offer negligible educational opportunities. Colleges of medicine as well as the Council on Medical Education and Hospitals are closely following the results of intern education in our hospitals. If our institutions want good interns they must make the intern year of real value to the medical graduate.—EDITORIAL, *Hospitals*, 10: 73 (November) 1936.

Postgraduate Course in Obstetrics

A postgraduate course in obstetrics will be conducted in Arkansas, under the auspices of the United States Children's Bureau, beginning January 4 and ending February 26, by Dr. Edward M. Davis, associate professor of obstetrics and gynecology of the University of Chicago Medical Schools. The state medical society and the State Board of Health will cooperate.

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Medicolegal Conference in Indiana

Scientific methods of criminal investigation and the coordination of medical and legal efforts in criminal and civil procedure were considered at Indiana's first medicolegal conference, December 4, at the Indiana University Medical Center, Indianapolis. The conference was sponsored by the medical school, the state police department, the university's institute of criminal law and criminology and the Indiana Committee, a group of citizens interested in law enforcement and improvement of criminal law administration.

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Prize for Study on Goiter

The American Association for the Study of Goiter again announces a competition for the Van Meter prize of $300 and two honorable mentions for the best essays submitted describing experimental and clinical investigations of the thyroid gland. The award will be made at the annual meeting of the association in Detroit, June 14-16, 1937. Manuscripts should be sent to the secretary, Dr. W. Blair Mosser, 133 Biddle Street, Kane, Pa., not later than April 1, 1937.

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International Hospital Congress at Paris

The next International Hospital Congress will be held in Paris, July 6-11, 1937, in the "Arts and Professions" Building, 9 bis Avenue d'Iena. An influential Organizing Committee has been

formed, under the patronage of the Minister of Health, and the services of Monsieur Albert Chenevier, the Secretary of the Public Assistance Administration at Paris, have been secured as Honorary Secretary of the Congress. Dr. Rene Sand, Dr. W. Alter and Monsieur Sarraz-Bournet have consented to act along with the committee on behalf of the International Hospital Association.

An interesting and varied program of lectures and discussions has been prepared, including French, German, Italian and English speakers on the National Planning of Hospital Services.

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Teaching of Psychiatry to House Officers

With a realization that patients would be treated better if those primarily responsible for their care knew more of the fundamental principles of psychiatry inasmuch as mind plays a large part in the mechanism of illness, Dr. Henry A. Christian, physician-in-chief in the Peter Bent Brigham Hospital, Boston, came to the conclusion that house officers should have an opportunity to see and follow the management of mental patients in an institution planned for that purpose.

He incorporated in his medical service of 16 months, an additional period of 4 months to be spent at one of the state hospitals for the mentally afflicted, the period following a 4 months experience in clinical laboratory work and preceding clinical service at the Peter Bent Brigham Hospital.

The plan has been in operation one year. What is the result? A noticeable increase in interest in the mental conflicts of patients and a greatly better method of handling their psychiatric problems. The plan has proven to be a practical means of meeting another deficiency in the scheme of educating men to practice better medicine.—*New England J. Med.*, 26:1254 (Dec. 24), 1936.

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Beverly D. Harison

A bronze tablet placed in the War Memorial Hospital, Sault Ste. Marie, in memory of the late Dr. Beverly Drake Harison, Detroit, contains the following inscription:

Beverly Drake Harison
1855-1925

Prominent Sault Ste. Marie Physician
Foremost Worker in Michigan Medical Legislation. One of the Founders of the Upper Peninsula Medical Society.

President of the Michigan State Medical Society in 1904.

Secretary of the Michigan State Board of Registration in Medicine for Twenty-four Years.

Erected by the Michigan State Medical Society and the Chippewa County Medical Society.

Dr. Harison was the father of reciprocity in licensure and founded the American Confederation of Reciprocal Registration in Medicine and was its secretary until his death. Dr. Harison was an ardent supporter of the Association of American Medical Colleges.

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WANTED: Young medical woman to go to India as physician for a Tuberculosis Sanitorium in North Central India, not far from Delhi. This is a missionary job, with small pay, but wonderful opportunity to study tuberculosis. Any one interested in such a position, please write to Miss Eunice Porter, Julesburg, Colorado.

Abstracts of Current Literature

Teaching of Pharmacology

Part of the current confusion with regard to the present status of teaching in pharmacology, evidenced by the symposium of the Association of American Medical Colleges, is due to an inability or reluctance to differentiate properly between pharmacology and therapeutics. Advance in the preclinical sciences has been general but in biochemistry and physiology has been adequately met by relatively minor teaching adjustments, while in pharmacology the medical course has necessarily been entirely revised. Whereas, in the past, a large part of a course in pharmacology was devoted to materia medica and therapeutics because of lack of knowledge of basic pharmacology, this knowledge is now more than sufficient to fill the short period in which the student is exposed to pharmacology. In many instances this has resulted in almost complete ignoring of all but the major therapeutic facts; in most cases, much less therapeutics is now taught than formerly. The important development, which has not been universally appreciated, is that pharmacology is no longer synonymous with therapeutics.

The purpose of modern pharmacology in the medical curriculum is to widen the student's knowledge of biochemistry and physiology and so prepare him for a rational approach to therapeutics. If this ideal is fully served, students will learn more sound therapeutics than if they are subjected for an equivalent period to superficial therapeutic aspects of drugs, the applications of which can never be understood completely without explanation of the basic pharmacology involved. Unfortunately, the course in pharmacology comes at a time when the student "begins to feel like a doctor" and is resistant to any serious mental work which does not have immediate practical application.

One rational remedy for the lack of interest of students in pharmacology per se and the need for this information to be imparted to them as an introduction to modern therapeutics is to provide adequate instruction in therapeutics as a separate course during the third or fourth year, rather than forcing the student to pick it up piecemeal from a dozen courses, as at present. Nor should the student be expected to have a perfect knowledge of modern therapeutics after completing what is, after all, only a transitional course from his preclinical work.

Viewed in this light, there is ideally no more reason why therapeutics should be taught in pharmacology than in biochemistry, anatomy or physiology. Yet because of the practical limitation that few schools offer adequate courses in therapeutics at the time it could best be taught, some compromise must be made with the present conditions, which, we have seen, are definitely a holdover from past practice. That this practice was good at the time is no excuse for resisting improvement now. Each teacher must make his own compromise, but one in which one of us took part has proved valuable. This experiment was conducted in the Pharmacological Laboratory of West Virginia University for ten years and involved the study of human reactions to drugs by the students, in addition to the classic animal experiments. If pharmacology is to develop fully in its rightful place as a major preclinical subject, it is necessary that specially trained men be put in charge of didactic work in the subject. We sincerely hope that the day when any man with simply a medical training was considered eligible to teach pharmacology is past. Certainly no man without sufficient ability or interest in the subject to become a member of the Pharmacological Society should teach pharmacology. It is only fair that the same standards be set for pharmacology as are in force for physiology and bio-

chemistry in our medical schools, and it is necessary for further advance in the subject that such standards be strictly adhered to. Equally rigorous standards must be set to assure the competence of men teaching therapeutics, and it is apparent that it would take an unusually gifted person to be able to teach both adequately.

The chief reason for the present necessity of a thorough course in basic pharmacology before the student is properly qualified for therapeutics is, of course, the great change in the nature of therapeutic practice brought about by the constant introduction of valuable, dangerous or sometimes worthless new therapeutic agents. In order that the student may be fit to judge their actions and worth, it is now necessary to emphasize the chemical aspects of pharmacology a bit more than has been customary with the older pharmacologists.

Overemphasis of chemical aspects of pharmacology is reprehensible. A method that nicely avoids this, almost by definition, is to limit chemical discussion to the relation between the physiologic action and the chemical constitution of the drug, touching only on well substantiated examples of the application of the various laws involved. Such "biochemorphology" has shown itself to be a powerful weapon both in research and in teaching, although its full value cannot be appreciated until more data are available on many important points of biochemorphic relationships. Its function at present, in didactic work, is to show the student by dramatic examples that pharmacology is the study neither of chemical properties of drugs nor of purely physiologic actions, but the interrelation of the two. It permits an assimilation by the student of an orderly series of facts and aids in placing pharmacology as a discipline on a scientific par with physiology and biochemistry.

Finally, the laboratory course in pharmacology has been criticized constructively by authors of papers in the symposium mentioned. It is necessary that cognizance be taken of the criticisms of students as well. It is our belief that the laboratory course should serve only to supplement lecture material. In it the student learns methods of pharmacologic research without attempting to verify all pharmacologic knowledge or establish new facts. A major part of the experimental work, particularly of the more tedious and difficult setups, may well be shown by demonstrations. All experiments should be as simple and illustrative as possible, and the occurrence of unusual reactions thoroughly explained, as Dr. MacNider points out. Emphasis must be placed on drugs useful in therapy or on closely allied drugs which illustrate certain phases of their action, rather than on beautiful, tenuous explanations of complex physiologic reactions which have no interest for medicine and may never have. Physiology is best taught in the physiologic laboratory, and the pharmacologist does not begrudge the physiologic use of drugs as molecular dissecting knives to illustrate physiologic principles—in physiology. Unless such drugs have important therapeutic applications, they have little place in the pharmacologic teaching laboratory. Just as chemical aspects of pharmacology should never be overemphasized, so only the pertinent physiologic information should be given in the student laboratory.—David, N. A. & Emerson, G. A.: *J. Am. M. Assn.*, 107:1599-1602 (Nov. 14), 1936.

Book News

Textbook of Surgery

By John Homans, M. D., Clinical Professor of Surgery, Harvard Medical School. 4th Ed. Charles C. Thomas, Springfield. 1914. Price, $8.

This deservedly popular book has undergone a complete revision without changing the pagination—which is a distinct novelty. A new chapter on amputations and plastics has been added in which principles are emphasized and indications in the presence of various diseases are discussed. The publisher deserves commendation for offering to supply, free of charge, to purchasers of any one of the previous editions the entire new chapter on amputations and plastics. However, inasmuch as many changes have been made in the text to bring it up-to-date, this later edition of the book is preferable. Because of the fine, thin paper used, the more than 1,200 pages do not make a seemingly large book nor a very weighty one, two points which will appeal to those who must handle it much. The work is based on the lectures and writings of many members of the surgical department of Harvard. The keen discrimination shown by the author in making appropriate selections for a student textbook is apparent. The book cannot be said to be concise, but it is complete, without being specially voluminous, hence should prove to be an admirable student textbook on the subject of surgery.

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Textbook of General Surgery

By Warren H. Cole, M. D., Professor of Surgery, University of Illinois College of Medicine, and Dr. Robert Elman, M. D., Associate Professor of Surgery, Washington University School of Medicine. D. Appleton-Century Company, New York. 1936. Price, $10.

Based on a recitation and lecture course given by the authors, including the subject matter used to teach students in the Outpatient Department and much of the material given in a course in surgical pathology. Detailed discussion of specialties such as eye, ear, nose and throat, is eliminated, but genito-urinary surgery and gynecology are dealt with at some length. Head injuries are included. The subject matter is presented from a physiological point of view; psthogenesis is emphasized; details of nonoperative therapy are described fully. Operations, although discussed in principle, are not described in detail, except in a few common instances. The authors have prepared a good teaching textbook, one which the student will find useful and helpful. If it were only half as large! It is high time that students be given an opportunity to buy textbooks which present only the important, essential fundamentals, which the student MUST learn, and omit all else known in the particular field. (Millenium?)

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Urological Roentgenology

By Miley B. Wesson, M. D., and Howard E. Ruggles, M. D., Clinical Professor of Roentgenology, University of California Medical School. Lea & Febiger, Philadelphia. 1936. Price, $5.

The authors essay to present an elementary work in urography which will aid in the interpretation of roentgenograms. They have succeeded; hence, this book should have an appeal to the clinical clerk and the intern as well as the general practitioner.

The book is a marvel of condensation and at the same time is sufficiently comprehensive to cover, in text and illustrations, nearly every common condition. The legends that accompany the illustrations are case histories in themselves.

The films are produced with unusual clarity. After a brief history of urography the technique is considered at length,

including the common causes of errors, the usual complications and intravenous urography. Succeeding chapters discuss the abnormalities and congenital anomalies and such conditions as hydronephrosis, urogenital infections, urinary lithiasis, renal tumors and both traumatism and neurological lesions of the urinary tract.

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Urology

By Edward L. Keyes, M. D., Professor of Urology, and Russell S. Ferguson, M. D., Assistant Professor of Urology, Cornell University Medical College. 6th Ed. D. Appleton-Century Company, New York. 1936. Price, $10.

A complete revision of former editions, with an attempt to present only essentials, leaving it for the specialist to enlarge his reading by means of current literature and society proceedings, which brings the book more nearly within the realm of the medical student. Many new illustrations have been added. A good piece of work.

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Modern Urology

Edited by Hugh Cabot, M. D., Professor of Surgery, the Mayo Foundation, Graduate School of Medicine of the University of Minnesota. 3d Ed. Two volumes. Lea & Febiger, Philadelphia. 1936. Price, $20.

The text has been rewritten so thoroughly that this is practically a new book. Many new names appear in the list of thirty-five contributors, including leading diagnosticians, therapeutists, surgeons and pathologists, men of acknowledged authority in their respective fields. While the work is not intended for the undergraduate student, it does meet the needs of the specialist and the general practitioner. Diagnosis and treatment are stressed. The illustrations, mostly original, are most commendable. These two volumes represent a comprehensive, scholarly and authoritative study, modern in spirit, conservative and sound in practice.

Practical Examination of Personality and Behavior Disorders in Adults and Children

By Kenneth E. Appel, M. D., Assistant Professor of Psychiatry, and Edward A. Strecker, M. D., Professor of Psychiatry in the University of Pennsylvania School of Medicine. The Macmillan Company, New York. 1936. Price, $2.

A practical handbook which can be recommended for the use of students. Actual questions are given to help the examiner elicit important data, with abbreviated norms of intellectual development which will enable the student to obtain a rough estimation of the degree of development or retardation which may be an important factor entering into it. There is a section in the book on how to make a personality report.

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Applied Dietetics: For Adults and Children; in Health and Disease

By Sanford Blum, M. D., Head, Department of Pediatrics, San Francisco Polyclinic. F. A. Davis Company, Philadelphia, 1936. Price, $4.75.

An alphabetical presentation of what to eat and what not to eat in various clinical conditions.

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Diseases of the Coronary Arteries and Cardiac Pain

By Robert L. Levy, Professor of Clinical Medicine, Columbia University College of Physicians and Surgeons. The Macmillan Company, New York. 1936. Price, $6.

This book contains the contributions of fourteen outstanding men in this field who have assumed critical attitudes and in the light of their own experience and judgment have presented definite, digested points of view. They present a summary of clinical experience which cannot but be useful to physicians engaged in caring for patients with heart disease. It is a fine contribution to the subject and a timely one in view of the growing mortality from coronary disease.

Allergic Diseases;
Diagnosis and Treatment

By Ray M. Balyeat, M. D., Associate Professor of Medicine, University of Oklahoma School of Medicine. 4th Ed. F. A. Davis Company, Philadelphia. 1936. Price, $6.

The enthusiasms of the author and his unusual experience in this field, ensures a complete and perfect revision, presented from the side of practice rather than theory.

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Treatment in Psychiatry

By Oskar Diethelm, M. D., Professor of Psychiatry, Cornell University Medical College. The Macmillan Company, New York. 1936. Price, $4.

This book tries to do justice to the principle that we need to treat the patient who suffers from a disease and not a disease entity. It is important, of course, to determine the illness from which the patient suffers, but it is no less vital to understand how the patient, as a personality, reacts to his illness for the study of a personality always opens up new avenues of procedure. This should prove to be a good book for the undergraduate student to digest thoroughly if he wishes to have a good knowledge of human behavior and how to treat its aberations.

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Applied Dietetics:
The Planning and Teaching
of Normal Therapeutic Diets

By Frances Stern, Chief of Food Clinic, Boston Dispensary. The Williams & Wilkins Company, Baltimore. 1936. Price, $3.50.

This book is the outgrowth of all of the planning, experience and organization of the Outpatient Food Clinic of the Boston Dispensary. Fifty-two tables, a complete list of dietary outlines for definite disease conditions and numerous charts clarify the text and supply complete data for the practical application of dietetics.

The chapters are entitled: The Daily Food Requirements of the Body; The Construction of the Normal Diet; The Construction of the Therapeutic Diet; Environmental Factors that Influence the Effectiveness of the Diet; The Education of the Patient on the Normal Diet; The Education of the Patient on the Therapeutic Diet.

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Food and the Principles
of Dietetics

By Robert Hutchison, M. D., Consulting Physician to the London Hospital, and V. H. Mottram, Professor of Physiology, King's College, University of London. 8th Ed. William Wood & Company, Baltimore. 1936. Price, $6.75.

A sound conservative guide emphasizing and educating in correct principles rather than supplying mere cut-and-dried diet lists. All the well proved newer knowledge of nutrition and food problems will be found in this revision. Temporary fads "cures" and "systems" get little sympathy although some are described.

To this edition a brief introductory chapter on the History of Dietetics has been added. Additions and alterations have been made throughout the book. The nature, use and value of practically every food and drink is fully described. The chapters of greatest interest to physicians are: Influence of various conditions on the amount of food required; Digestion of food in health; Principles of feeding in infancy and childhood (3 chapters); Principles of feeding in disease (2 chapters); Artificial foods and feeding.

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Synopsis of Surgical Anatomy

By Alexander L. McGregor, M.Ch., University of Witwatersrand, S. Africa. 3d Ed. William Wood & Company, Baltimore. 1936. Price, $6.

Concise, with an excellent mechanical layout, the numerous illustrations; excellent for review or brush-up. The British anatomical nomenclature is used, except for a few terms in wide use. Every medical student should have a copy.

Manual of Pharmacology

By Walter E. Dixon, M.D., King's College, London, and W. A. M. Smart, M.B., London Hospital Medical College. 8th Ed. William Wood & Company, Baltimore. 1936. Price, $6.50.

Completely revised and brought in line with recent developments in pharmacologic research. Special stress is laid on a knowledge of organic chemistry. Prescriptions illustrating the practical application of the subject matter are a new feature. The numerous tracings are a valuable feature.

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Keeping Your Child Normal

By Bernard Sachs, M. D., New York. Paul B. Hoeber, Inc. (Harper & Brothers), New York. 1936. Price, $1.50.

Presenting suggestions for teachers, parents and physicians, with a critical estimate of the influence of psychoanalysis. The topics discussed are: Infancy and childhood; the school age; heredity and environment; truancy and delinquency; puberty and adolescence and psychoanalysis. Good reading.

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Textbook of Medicine

By Charles P. Emerson, M.D., Research Professor of Medicine, Indiana University. J. B. Lippincott Company, Philadelphia. 1936. Price, $10.

Internal medicine is presented in a new way—in terms of the clinical pictures of diseases, and to explain these by the findings of pathology, biochemistry and the other preclinical sciences, rather than to emphasize the latter, mentioning symptoms as logical consequences of disturbances in these fields. The author's experience as an outstanding teacher of medicine is here put in type so that all other teachers—and future generations of medical students—may profit. His interest in the development of medicine as an art is reflected by short biographies of a few men to whom the profession is indebted for its advances. Each disease syndrome is presented as the defensive aspect, either as a struggle between the patient's body and an invading germ, or as an expression of an attempt of the various organs to function efficiently in spite of lesions and dysfunctions either in themselves or in others fundamentally related to them. The emotional reactions to disease are also considered carefully and fully. Among the causes of disease, the author stresses social, domestic and industrial environment. Many bibliographic references are given. There are no illustrations. The author's style is all that can be desired. Hence, what he has written may be read with pleasure and profit. This book should make a large appeal to every medical student—and every practitioner.

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Physiology and Pharmacology of the Pituitary Body

By H. B. Van Dyke, Peiping Union Medical College, China. University of Chicago Press, Chicago. 1936. Price, $4.50.

The scientific foundations of our knowledge of the pituitary in terms of physiology, pharmacology and related sciences, are set forth at length. The experimental work of the past 15 years is reviewed and discussed. Clinicians as well as physiologists (the clinician should also be a physiologist) will find the valuable. It is an excellent piece of work and complete in scope.

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Physiological Principles in Treatment

By Sir Walter Langdon Brown, St. Bartholomew's Hospital, and Reginald Hilton, M.D., St. Thomas' Hospital, London. 7th Ed. William Wood & Company, Baltimore. 1936. Price, $3.

This volume stresses the importance of keeping in mind the importance of physiology in the treatment—or study—of any disease. It is well written and should prove to be a valuable addition to every student's library. It is also an ideal book for the physician.

Textbook of Medicine

By various authors; edited by J. J. Conybeare, M.D., Guy's Hospital, London. 3d Ed. William Wood & Company, Baltimore. 1936. Price, $7.

Rewritten and considerably revised. An excellent book for the student.

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Principles of Bacteriology and Immunity

By W. W. C. Topley, M.D., University of London, and G. S. Wilson, M.D., University of London. 2d Ed. William Wood & Company, Baltimore. 1936. Price, $12.

An outstanding work by two international authorities in this field. True, it is an unusually large book, containing 1660 pages, but its size is fully justified by the contents. It is freely illustrated; depicts many tables; gives an excellent bibliography and, doubtless, will prove to be a source of great joy and usefulness to every worker in bacteriology, immunology and hygiene. The revision made was so extensive and complete, that 300 additional pages were added to the former edition. The publishers deserve to be complimented highly on their share of the work.

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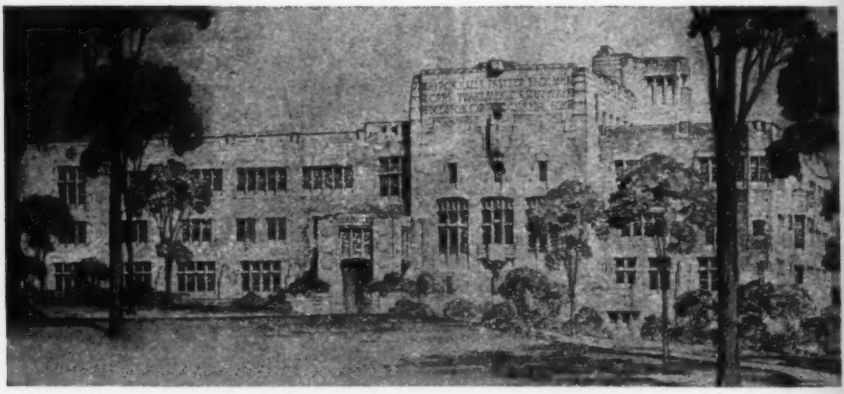
Illustrations of Regional Anatomy

By E. B. Jamieson, M.D., University of Edinburgh. Section VI—Upper Limb; section VII—Lower Limb. William Wood & Company, Baltimore. 1936. Price, $2 and $3, respectively.

These two sections complete the set of 7 volumes. Each section is provided with an attractive loose leaf binding for ready reference. Consisting entirely of plates, in color, beautifully made and most helpful to the student not only during his dissection work but later during his clinical clerkship. The whole set costs only $14 which provides an anatomic atlas of value.



Medical building of Indiana University to house the departments of anatomy and physiology. This building is being erected on the University campus at Bloomington.